KOOTENAI DEVELOPMENT IMPOUNDMENT DAM

AUGUST 2011 ROUTINE OWNERS INSPECTION

Prepared for: The Remedium Group

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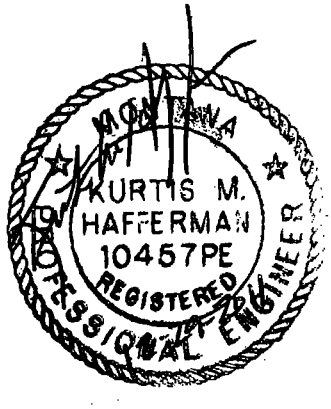
Inspection Date: August 25th, 2011
Report Date: December 29, 2011



INSPECTION DATE: August 25th, 2011
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1.0 OBJECTIVES

The end of August 2011 routine owner's inspection was conducted on Friday, August 25th, 2011. Personnel included Kurt Hafferman, P.E. and Dan Nelson from BHI and Jeremy Peterson from Chapman Construction.

The inspection was conducted as a routine owner's inspection. Project tasks to be completed included:

1. Safety meeting with Chapman and BHI
2. Check LRC-06 flows
3. Check Carney Creek and Lower Rainy Creek flows
4. Check Upper Rainy Creek and Fleetwood Creek inflows
5. Read reservoir level
6. Record piezometer readings
7. Inspect the embankment dam
8. Inspect principal spillway
9. Inspect outside and inside of drains
10. Read flumes and weirs below the drain outlets
11. Read staff gauges in all streams above and below drain outlet channel
12. Download transducer data
13. Decontaminate and depart site

2.0 RESULTS

BHI met with Chapman Construction at 8:00 a.m. and the routine owner's inspection began at 8:15 a.m. and was completed at 12:45 p.m. BHI completed equipment transfer, read LRC-06 flume and departed the site at 1:00 p.m. The weather was partly cloudy, with calm winds and isolated showers. The temperature ranged between 55°F and 65°F. There were no weather impediments that affected the inspection. Copies of photographs from the date of the inspection are included in Appendix 1.

Copies of the Routine Owners Inspection Report as completed after the inspection and copies of the field notes are provided in Appendix 2. The following are the results of each of the thirteen (13) tasks described above;

1. Safety Meeting: Jeremy Peterson has been assigned as the health and safety officer and is responsible for equipment condition, decontamination procedures and overall KDID site safety. The safety meeting with Chapman Construction included discussions of the work tasks and procedures for the day, equipment safety and operation, emergency procedures, truck traffic onsite and overall job site safety. Environmental Restoration (ER) continues operations at the amphitheatre and has staged decontamination equipment onsite. Equipment was checked, no issues were found and all personnel were equipped and prepared for the site conditions. Standard equipment used included: double Tyvek suits, rubber booties, double vinyl gloves and North® full face mask. Booties were taped at the top and Tyvek suits are taped at the zipper on the outer suit.
2. The LRC-06 flume was checked at the end of the inspection. The flume was clean and clear and a gauge reading was taken and recorded.
3. Carney Creek and Lower Rainy Creek Flows: Flumes CC-02 and LRC-02 respectively were read. Flumes were clear and gauge readings were taken and recorded, gauge readings are as follows;

   a. The CC-02 Flume was read and the gauge height was recorded at 0.14 ft.
   b. The LRC-02 Flume was read and the gauge height was recorded at 0.58 ft. There is heavy weed and yellow clover growth from earlier flooding.
4. The Upper Rainy Creek and Fleetwood Creek flumes were read.
   a. The URC-02 Flume was read and the gauge height was recorded at 0.49 feet.
   b. The Fleetwood Creek flume was read and the gauge height was recorded at 0.20 feet.
5. The reservoir level has continued to decline. The gauge reading on the staff gauge in the reservoir was recorded at 1.37 feet.
6. All piezometer's were read and recorded; levels are continuing to decline and are returning to more typical levels. An update of the piezometer plots is included in Appendix 3.
7. No bulges, erosion or other anomalies and/or changes were noted to the embankment from the upstream face to the toe.
8. The spillway was not running and the entrance channel was dry. Maintenance of the caulking in the expansion joints has been completed this year by Chapman Construction.
9. Drains were inspected and the flows in the drains and stream channel below the drains were measured and recorded. Water is still flowing in drain 2 with no detectable change in the rate of flow. Drain flows were all recorded as clear and steady.
10. All weirs and drains were read and recorded, no anomalies were noted. Results are shown in Table 1 below.
11. Gauge height readings from the flumes and weirs in streams and below the toe drains were taken. Results are summarized in Table 1 below.
12. Data from all five (5) of the Solinst® transducers onsite were downloaded during the inspection. Data will be processed and reviewed. As the Spillway is no longer running the transducer has been removed and will be placed in piezometer A8 until next spring.
13. Initial personnel and equipment decontamination was conducted at the contamination reduction site with ER pressure washing equipment. Final removal of the inner Tyvek suit and the mask took place at the support trailer.

The readings from all the streams flowing into and out off the site, including the flumes, weirs and reservoir levels are compiled in Table 1 below. Table 2 shows the net difference between inflows and outflows on the day of the inspection.

Table 1: Flow Measurement Results

Station	GH Reading (ft.)GH Reading last Month	GH Reading (ft.)GH Reading this Month	GH Reading Difference from last month.	Flow (gpm)/VOL (AF) last Month	Flow (gpm)/ VOL (AF) This Month	Flow/VOL Difference from last month.	Temp °F
URC02	0.76	0.49	-0.27	552 gpm	219 gpm	-333 gpm	45°F
Fleetwood Creek	0.36	0.20	-0.16	87.1 gpm	25.6 gpm	-61.5 gpm	50°F
Reservoir	2.24	1.37	-0.87	51.3 AF	33.2 AF	-18.1 AF	65°F
F 1-2-3-4	0.51	0.25	-0.26	86.7 gpm	40.4 gpm	-46.3 gpm	
W 5	0.187	0.146	-0.041	17.5 gpm	9.46 gpm	-8.04 gpm	
D6	0.802	0.849	-0.047	421 gpm	294 gpm	-127gpm	
F 7-8	0.13	0.10	-0.03	7.76 gpm	4.53 gpm	-3.23 gpm	
W 12	0.395	0.333	-0.062	112 gpm	73.1 gpm	-38.9 gpm	
F -Seep	0.31	0.21	-0.10	63.3 gpm	28.3 gpm	-35 gpm	
LRC01	0.39	0.30	-0.09	1262 gpm	684 gpm	-578 gpm	45°F
CC02	0.22	0.14	-0.08	136 gpm	67.3 gpm	-68.7 gpm	48°F
LRC02	0.86	0.58	-0.28	1403 gpm	783 gpm	-620 gpm	47°F
LRC06	0.90	0.65	-0.25	1506 gpm	909 gpm	-597 gpm	
Spillway	0.00	0.00	-0.00	0 gpm	0 gpm	0 gpm	

- Estimated Flow

Table 2: Total Flows

Total Flows	
Inflows Above Reservoir at URC02 and Fleetwood Creek	245 gpm
Outflow Below Reservoir above CC02	684 gpm
Difference	439 gpm

3.0 DISCUSSION

3.1 Weather Updates

The precipitation in this area as of August 25th, 2011 is reported as 136% of normal at the Banfield Mountain recording site which is located just northwest of the project, indicating the water year, beginning October 1, 2010, in the vicinity of the project is still above normal. The entire Kootenai River basin shows precipitation levels at 124% of normal.

The temperatures in the past month have ranged from a low of 39°F to a high of 89°F and there has been 0.2 inches of precipitation since the July inspection.

3.2 Site Access

Access to the site was obtained with the ATV. Jeremy Peterson was the onsite health and safety, equipment and personnel safety officer. Jeremy provided vehicle operation while Mr. Hafferman and Mr. Nelson carried out the inspection. ER continues operations on the site. The inspection crew checked in at the entrance shack per EPA requirements. As required for safety, large trucks were followed on haul roads.

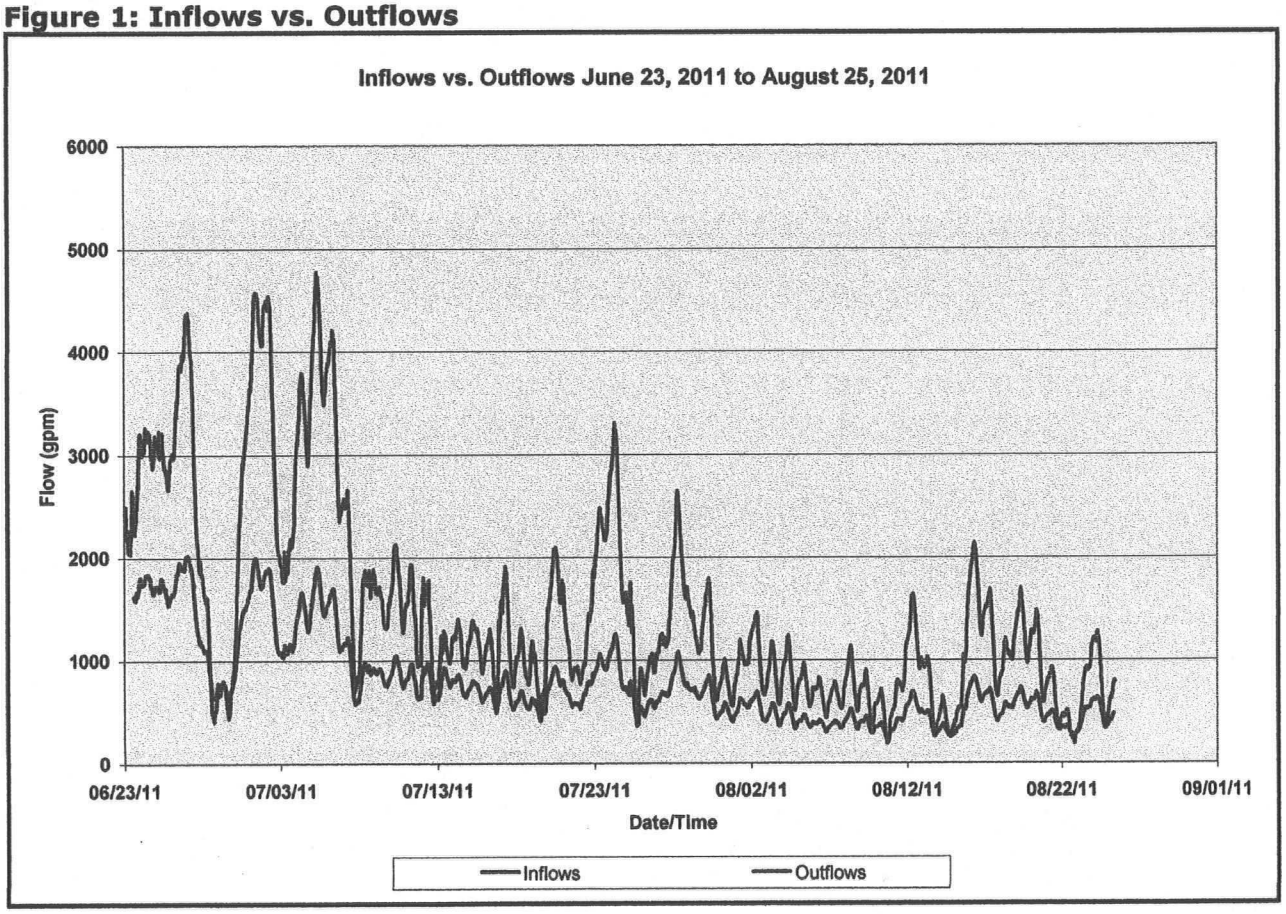
3.3 Surface Water Flows

Inflows into the reservoir show a continued decline through the summer season in conjunction with drying conditions. The inflow from Upper Rainy Creek was recorded at 219

gpm and Fleetwood Creek was recorded at 25.6 gpm for a total reservoir inflow of 245 gpm on August 25th. This inflow is a 62% reduction over the flows measured in July. Inflow volume over the past month was calculated to be 28 AF and the outflow volume at LRC-01, at the toe of the dam, was calculated to be 103 AF. The calculation shows that there was 72% more outflow than inflow; which is noteworthy as this is the same trend noted in the July inspection. As this is the second time BHI has had reliable on site transducer data, this trend will be monitored closely in the future.

Drain outflows into Lower Rainy Creek have gone from 1262 gpm in July to 684 gpm during this inspection, a drop of 46%, but, as stated above, are higher than inflows. The spillway has not been noted as flowing Since July 28th, so all flows are now routing through the toe drains or the foundation gravels after they route through the impoundment. Figure 1 below compared surface water inflows and outflows since June 23rd.

Figure 1: Inflows vs. Outflows



In the graph above, we can see that outflows have been consistently higher than inflows but we also see that it appears flows are beginning to stabilize. Inflows include Upper Rainy Creek and calculated and measured Fleetwood Creek inflows and the measured outflows include toe drain and spillway flow below the toe of the dam. It is interesting to note that the flow patterns above and below the impoundment have nearly matching changes in pressure head as measured in a Solinst® transducer.

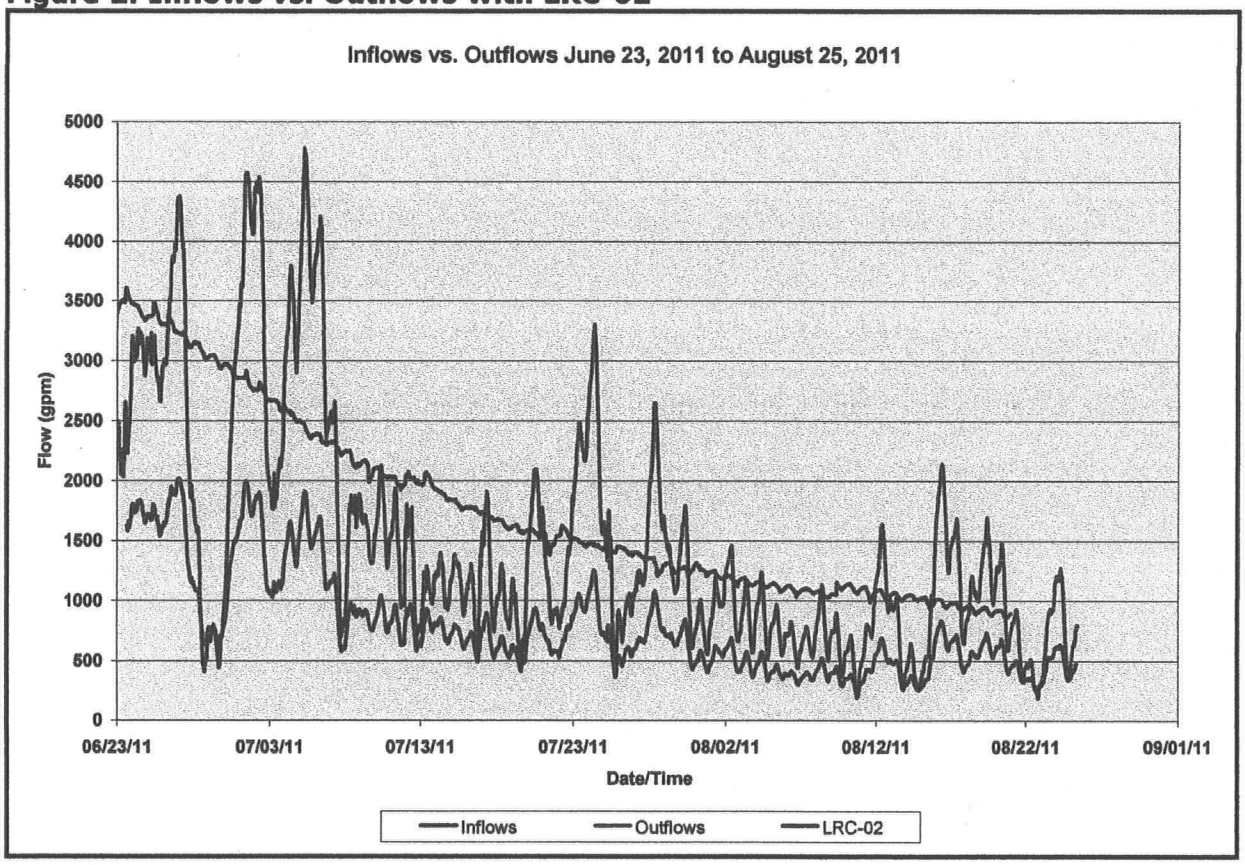
As was mentioned last month there is also not a measureable or observable lag time between the time that water flows into the project from Rainey Creek and Fleetwood Creek and the time we see outflow responses at the toe at LRC01. The only measureable lag time that we have seen to date is the 30 minute interval between transducer readings. In a standard tailings impoundment that includes a water retaining impoundment/groundwater infiltration system we would expect to see at least some attenuation of peak flow responses in the

reservoir and in the tailings that would eliminate extreme flow fluctuations on a daily basis; instead we see a similar reaction above and below the dam. It appears more and more as though there is a direct connection through the reservoir either through an open pipe, a groundwater flow path or that water enters and flows through a very pervious gravels seam that starts above the reservoir and flows below the dam and is intercepted by the drain system.

This correlation is unexpected and will be monitored more closely in the coming months. To calculate a lag time, the transducers must be set to record at faster intervals until a delayed reaction can be measured.

Figure 2 below shows the inflows and outflows along with the flows recorded at LRC-02 which is located below the mill pond and includes flows from LRC01 and Carney Creek (CC-02).

Figure 2: Inflows vs. Outflows with LRC-02



The graph above is the same as Figure 1 except it includes the flow data obtained from MWH Global for the LRC-02 flume. As can be seen the flow changes in the MWH Global LRC-02 flume are much more subdued to those measured at BHI URC-02 and LRC-01. It is assumed that the attenuation of flows from LRC01 is provided at the mill pond. As can be seen, the LRC02 flow fluctuations are gradual declines with very little day-to-day fluctuations when compared to reservoir inflows and the toe of the dam. The data shows that the mill pond and the outflow are acting as expected and that the reservoir impoundment above the KDID and the outflows below are not.

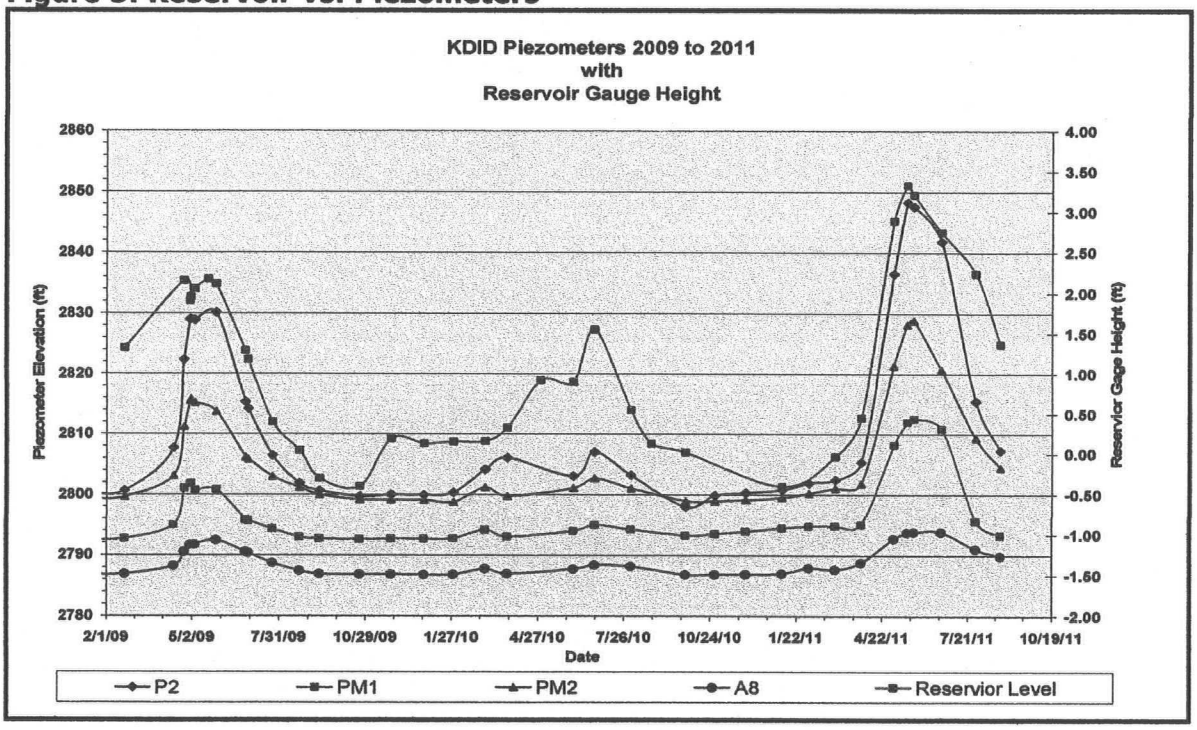
3.4 Reservoir

As with surface water flows, the reservoir level has continued to decline over the past month and was 1.37 feet on the staff gauge. The surface of the water was at its late season normal

position; approximately 250 feet from the upstream crest of the dam on the date of this inspection.

The reservoir is still approximately 1 foot higher than has been normal for this time of year but is nearing normal levels. Reservoir levels and piezometers levels have been found to be correlated over the season in that they rise and fall in unison. It has been noted, and as discussed in the piezometer section below, the day-to-day changes in reservoir level are not always reflected in the piezometers; just the seasonal trends. It is also shown that the reservoir rise and piezometer response was quicker and reached levels much higher than average and higher than any other year monitored by BHI which is a reflection of the amount of runoff this spring compared to recent years. Figure 3 below shows the updated reservoir level versus the piezometer levles over the last three years.

Figure 3: Reservoir vs. Piezometers



3.5 Spillway

The principal spillway has not been visually recorded as running since July 28th and ran for a total of 108 days this year that we were able to record plus or minus one day each way. We calculate that from May 25th to July 28th, a total of 236 AF of water went over the spillway for an average flow of 500 gpm over the spillway this spring. This is the longest that BHI has observed the spillway run.

Chapman Construction has now completed expansion joint maintenance in the Principal Spillway after sustained flows resulted in some of the joint epoxy lifting out. The loose joint epoxy was removed and the joint cleaned prior to re-sealing.

During the inspection one repaired joint was noted as not adhering to the concrete but was less than 2 inches in length and was on the downstream side of the joint. Chapman was told that this joint will require repairs next spring before water flows over the spillway. If the repair can not be completed immediately it will not adversely affect performance or condition of the spillway.

Drains and Drain Flows

Toe drains show declining flows along with the rest of the water flows into and out of the area. All drain flows are noted as clear and steady.

Once peak flows had passed in July, visual observations have shown that gravel material has been transported out of at least drain 3 and drain 12 this spring along with other areas that were not obvious but were suspected. In order to verify gravel transport, three sediment monitoring stations were setup in the channel along the toe of the dam to measure changes in the build up or transport of gravel material through a particular cross section of the stream near a drain. The monitoring stations include a reference mark (survey stake) that will be used to measure the depth of the stream invert below the reference mark. These stations will be measured each month and plotted to aide in determining material movement through the embankment.

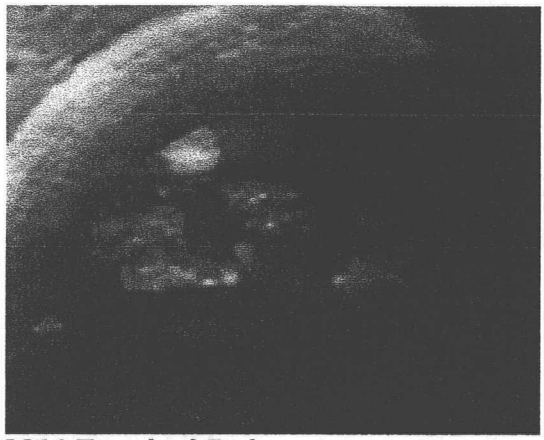
Flows in drain 1 have ceased and appeared to have ended well after the spillway stopped flowing. The actual date that the flow from the drain stopped is unknown, but the condition of the pipe suggests it was at least a week prior to the inspection which would have been at least one month after the spillway flows stopped. Drain 2 is still running with a slight decline in flows over last month. It was noted that there was black globs of 1/8th-inch to ¼-inch size sediment particles that was visibly suspended in the flow out of the pipe on August 23rd. The sediment flowed after a small gravel mound was moved from the outlet of drain 2. A sample of the sediment was taken of the material for future reference. The initial assumptions were that the material may possibly be fine tailings from the reservoir. The material was not evident during this August 25th inspection but was noted in the channel below the drain. The assumption was that the sediment and small gravels move continually and will accumulate when gravel depositions occur. Once the gravel deposit moves, the sediment moves. This would indicate that the sediment has a mass that is fairly light; i.e. vermiculite tailings.

The flow from Drain 3 decreased again this month. The decrease in flow allowed for the drain to be video camera inspected on August 23rd to determine the source of the gravel material noted this spring below drain 3. Gravel was also noted below drains 10, 11 and 12. The video camera was the BHI push tubes and 400 ft. level-head line camera, pushed to the terminal end of the pipe. BHI noted that the sag in the drain 3 pipes that was discovered during the 2010 video inspection had now partially filled with gravel and the video camera was able to travel through the sagged section in clear water where it had previously been in a black cloudy void.

Also noted were changes at the terminal end. The video revealed what appears to be new rock and concrete or new rocks that do not have the dark oxidized covering, at the terminal end of the pipe. The terminal end of drain 3 is shown in Figure 4 below in 2010 and 2011. On the left side in Figure 4 is the terminal end of drain 3 in 2010. Note the rounded concrete pipe below the white rock on the left side. Close inspection shows the concrete is well defined and there is a protrusion of the old pipe and then a small void then the gravel in the drain. In the 2011 terminal end, the lip of the concrete is not defined under the white rock and new rocks appear that are clean and not oxidized.

Figure 4: Drain 3 Terminal End 2010 vs. 2011

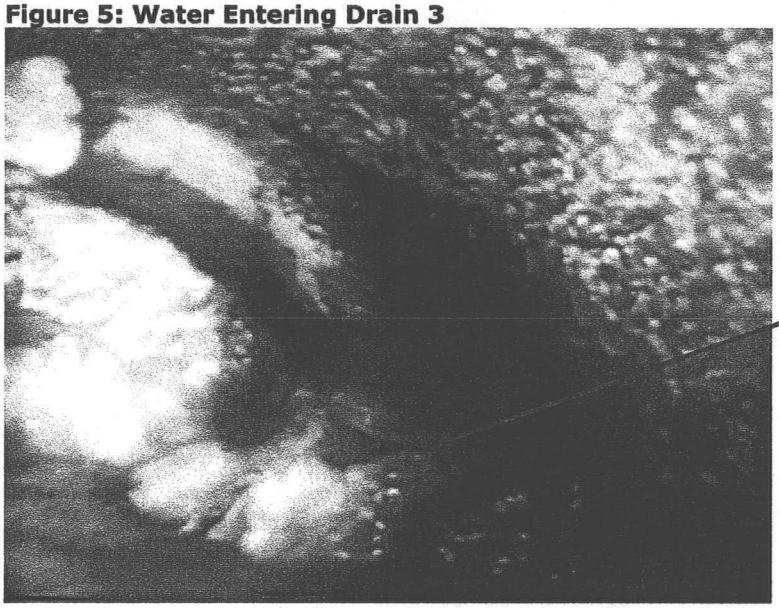
2010 Video Terminal End



2011 Terminal End

The video confirmed that material transport has occurred and is coming from the terminal end of the pipe. Also noted is water entering perpendicular and slightly above the pipe on the right side of the video at the terminal end of drain 3; which was not noted in 2010. It was also noted that a triangular piece of concrete was also missing on the right side of the pipe. Figure 5 below shows the cross drain at the terminal end of drain 3.

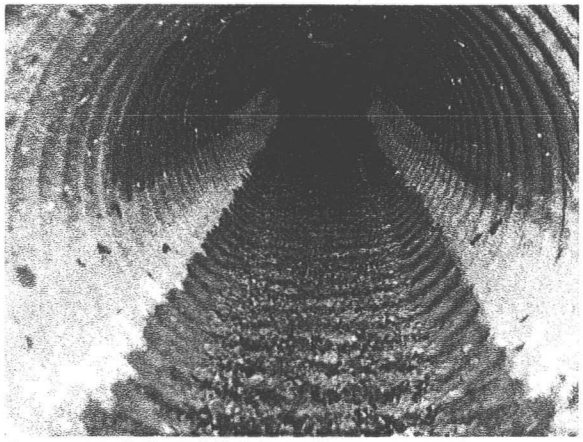
Figure 5: Water Entering Drain 3



There terminal end of drain 3 is located 128.5 feet in from the toe of the dam and closely matches the location of the cross drain shown in the Phase 1 inspection report by Morrison and Maierle, Inc. It may be possible that the flow entering drain 3 perpendicular may be an indication that drain 3 is located at the Phase 1 cross drain location. It is also speculated that the cross drain could be the source of gravel during the high flow events. As discussed, last month a noticeable increase of material at the outlet of drain 3 was discovered as compared to pre-spring runoff; which prompted the video inspection. This month the material has washed out of the drain and there is no apparent gravel transport and flows have returned to normal levels and are shown in figure 6 below.

Figure 6: Drain 3 July 2011 vs. August 2011

July 29, 2011



August 25, 2011

Flume 1-4 also showed material buildup in the flume bottom and is likely a result of material transported from drain 3. The flume bottom was cleaned to monitor future buildup. Drain 5 is still sustaining higher flows than normal and also peaked at record levels this spring. Cleaning around the weir shows that there was also fine grain dark sediment material transported out of this drain. Sediment depth was measured behind the weir to monitor future transport of material.

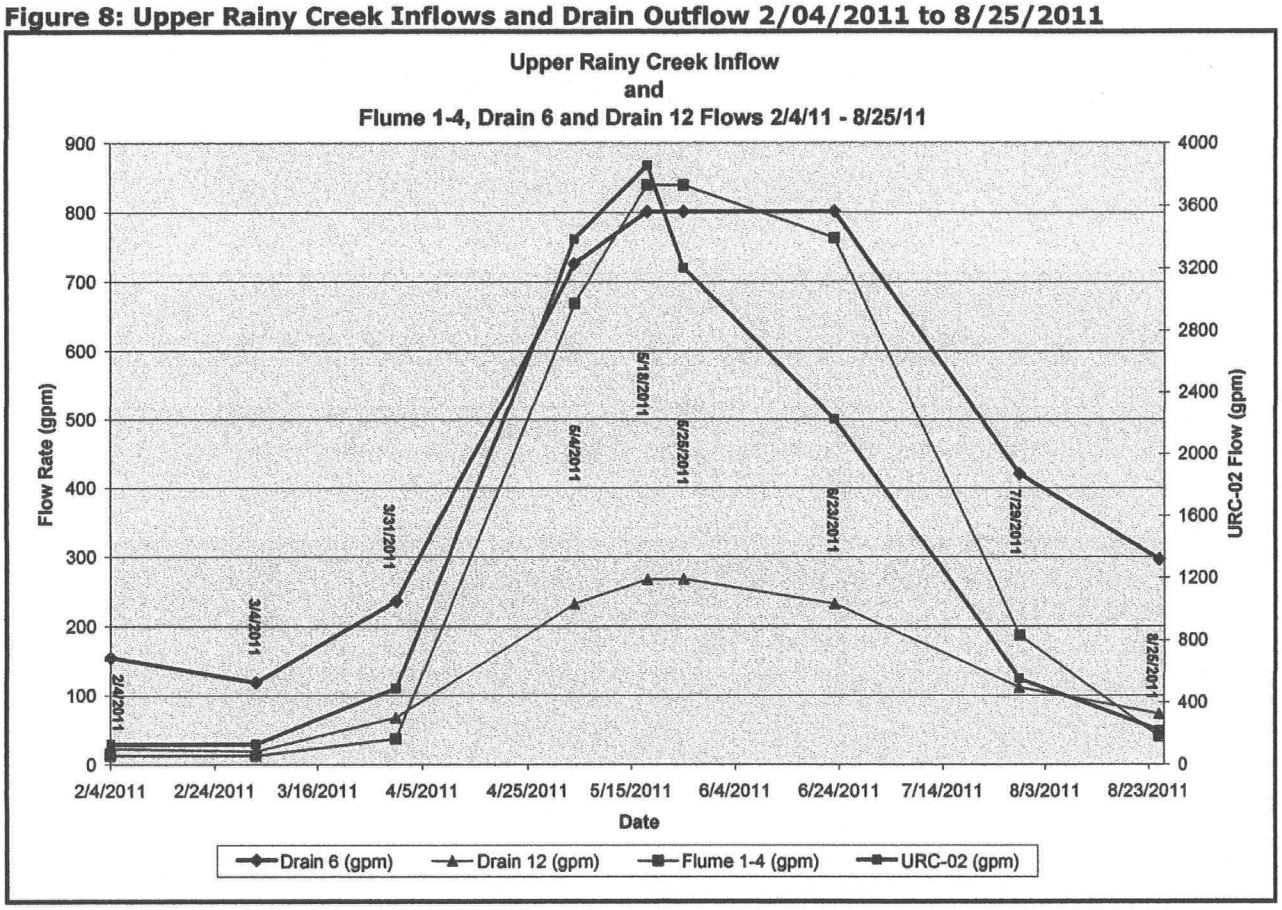
Drain 6 was recorded at 295 gpm down from 422 gpm on July 29th, a reduction of 30%. It is interesting to note that drain 6 flows this month alone are greater than all the surface water inflows to the reservoir. If drain 6 is the stream flow, then the flow from the remaining drains is the representation of the total groundwater influence at the toe of the dam.

Drain 10 and 11 are at normal flows for this time of year and were also videoed on August 23rd. The video showed no change in the pipe condition at the terminal end and it was noted that material transport in these drains was not likely heavy this spring and certainly not in the volume noted in drain 3. It was determined that the gravel noted in the stream channel below drains 10 and 11 is the likely the result of gravel transport from drain 12, as discussed below. As the channel widens significantly near drains 10 and 11, it is assumed that the sediment from drain 12 is no longer suspended in the stream at this point and appeared to be from drains 10 and 11.

Drain 12 has now dropped below the high flow of 100 gpm. The previously saturated conditions above and to the west side of the drain have dried up. Sediment transport below the drain has filled up behind the stream channel behind the V-notch weir. The weir had been previously set with a 6-inch difference between the channel invert and the bottom of the weir notch. The sediment is now 1-inch below the V-notch and the weir was beginning to lean out from the weight of the sediment on the back side and caused seepage on a weir that had been previously plumb and leak proof. The weir was reset and a sediment monitoring stake was set at the outlet of drain 12 to measure future buildup of transported sediment. The channel from drain 12 to the weir is approximately 15 feet long in a 2 foot wide channel and assuming a tapered build up in sediment from the drain to the weir, we estimate that at least 0.46 cubic yards of material was deposited in the channel behind weir 12. We assume an equal or greater amount flowed over the weir and deposited near drains 10 and 11.

A general drain flow comparison of the peak drain flows as measured in flumes 1-4, drain 6, and drain 12 are plotted against Upper Rainey Creek inflows at URC-02 inflows to compare the flow fluctuation relationship that has shown up in the surface water transducer data. The plotted relationship is shown in Figure 8 below.

Figure 8: Upper Rainy Creek Inflows and Drain Outflow 2/04/2011 to 8/25/2011



As can be seen, and as discussed in the July report and in section 3.3 surface water flow section above, there is a surprising correlation between peak inflow timing and peak drain flow timing.

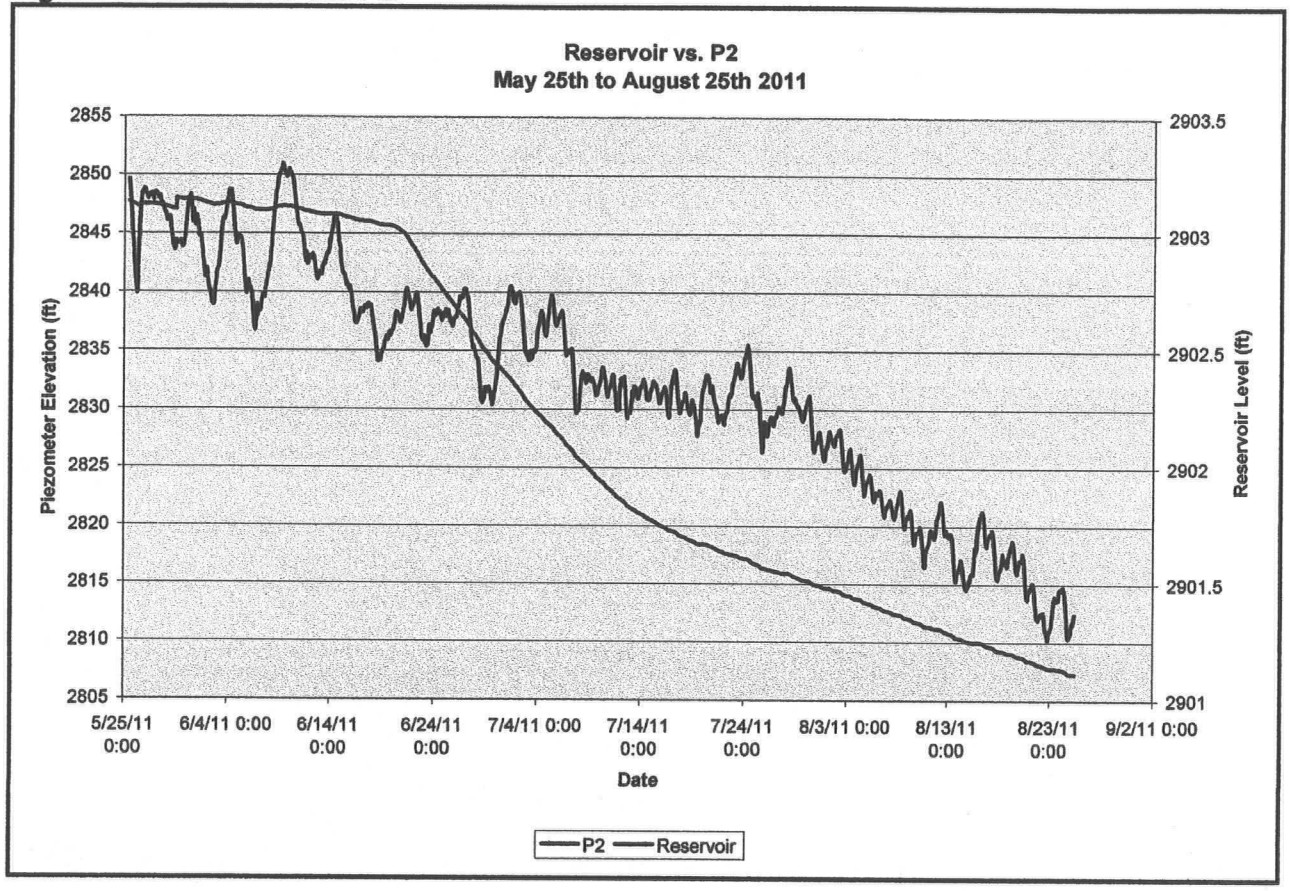
Piezometers

Piezometer readings have continued their decline and are beginning to stabilize at near normal levels with the exception of piezometer A8 which is still measuring well above past records. The higher levels in piezometer A8 indicate that groundwater levels in the foundation are still high and confirm that there is an upward groundwater gradient that is higher than the elevation of the drains. The level is expected to fall in the next month as average groundwater flows dropped nearly in half over the past month and indicates groundwater flow influence is receding.

Based on precipitation observations, the water and piezometer levels experienced this year in the Rainy Creek drainage basin would be considered as nearly, to slightly above normal. These conditions were last encountered in 2008 when near normal levels were recorded at the Banfield Mountain site weather site. However the reaction seen this year was more extreme than in 2008 and seems to be an indication of changing conditions in the reservoir, drains and or embankment itself.

The Piezometer P2 transducer was downloaded during this inspection along with the other transducers and plotted against the reservoir to check for adverse changes or correlations. Figure 9 below shows this graph.

Figure 9: Reservoir vs. P2

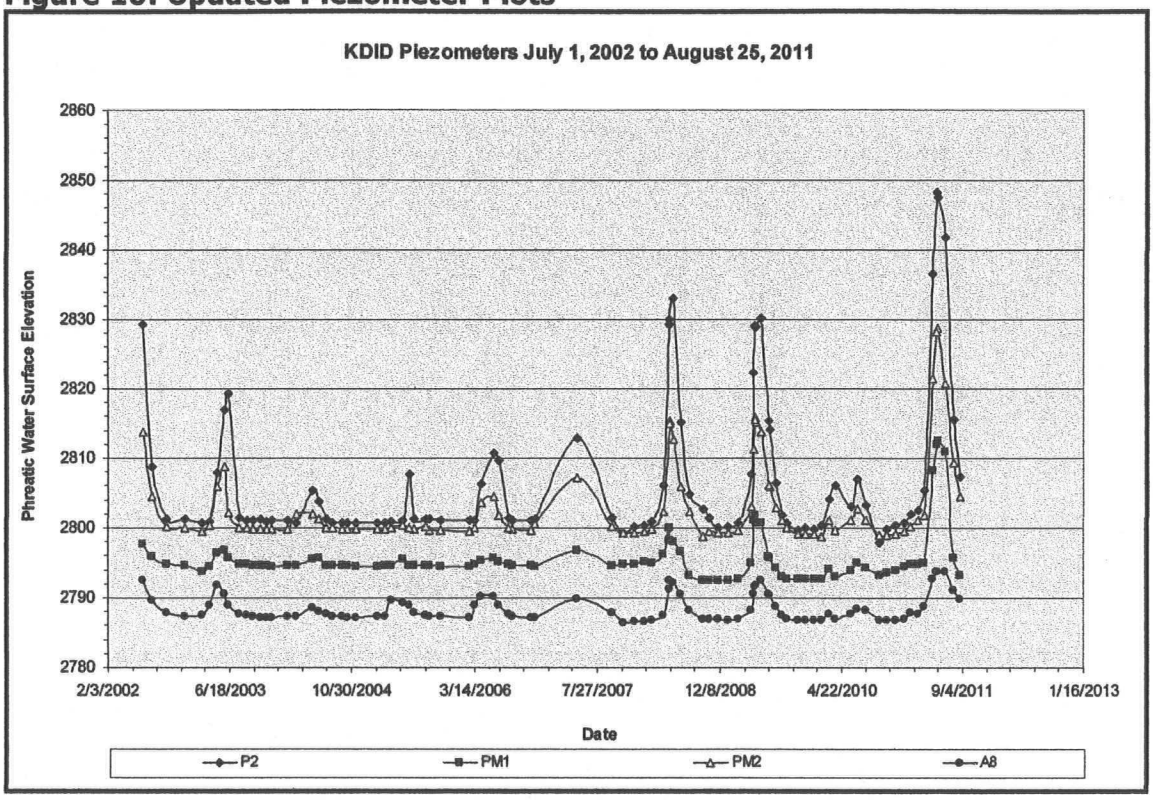


The graph above shows the continued decline of piezometer P2 and the reservoir. P2 showed no abnormal spikes or changes in august and as shown above is nearing typical levels. The piezometer water level has dropped over 40 feet since peak levels were measured on May 18th this spring.

It is interesting to see that the piezometer changes are relatively steady when compared to the surface water although they have a similar general trend. It is also interesting to note that sudden changes occur and are shown at the inflection points on the graph. The inflections are not rounded and make a nearly linear transition after prominent angle points. It is speculated that these linear changes could represent a change from surface water and groundwater influence to a combination to just groundwater influence. Again, this trend will be tracked yearly to note changes or correlations.

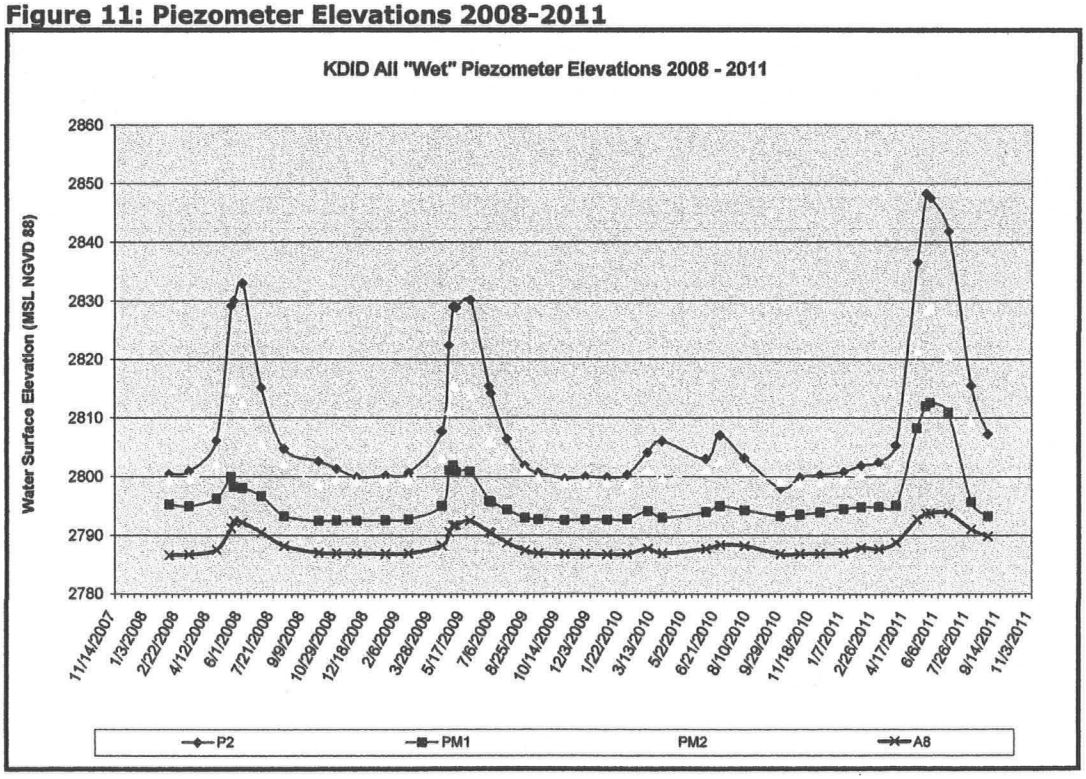
The updated piezometer plots from the original 2002 data to the date of this inspection are shown in Figure 10 below. It is noted that the peak in piezometer levels occurred on or about May 18, 2011 and were all declining levels thereafter.

Figure 10: Updated Piezometer Plots



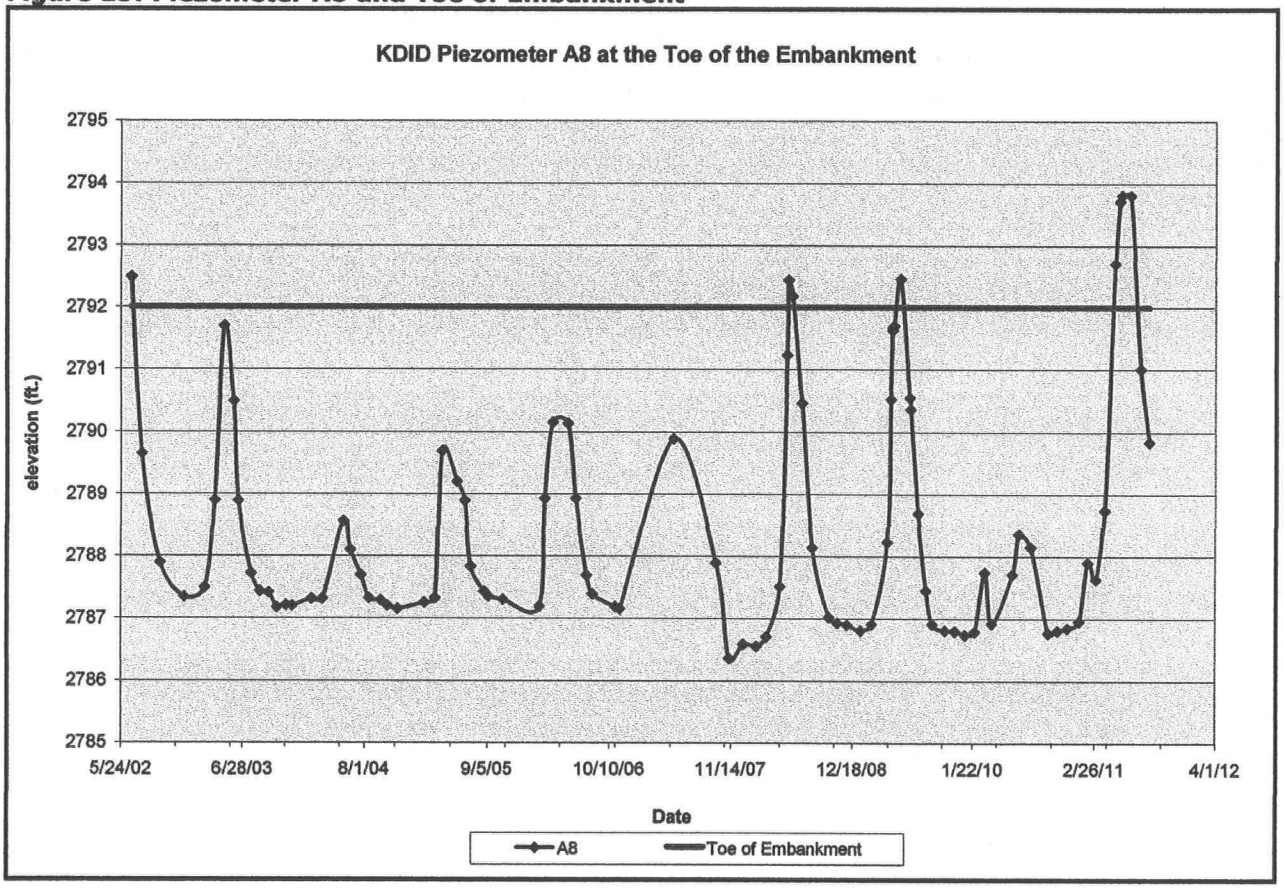
In the graph above, we see that with the exception of the record high piezometer levels, the level changes within the dam follow the pattern seen in most years except they are at higher levels than previously recorded. Figure 11 below shows the same piezometers, but over a shorter period of time with more consistent data.

Figure 11: Piezometer Elevations 2008-2011



The graph above represents data collected since BHI began onsite inspections. We see that with the exception of 2010, which was a low precipitation year, that there is an annual cycle that the phreatic water surface in the dam follows. This spring the peak levels were higher than any other data but the cycle has remained the same. The only notable difference other than the peak levels is that piezometer A8 appears to be receding slower than normal and shows a prolonged groundwater influence that has not been previously noticed. Figure 13 below shows piezometer A8.

Figure 13: Piezometer A8 and Toe of Embankment



HAZWOPER UPDATES

BHI continues to conduct safety meetings at the beginning of each inspection. All personnel have current certifications, equipment is maintained in good working condition and we have no personnel issues at this time.

The Truck and all equipment are washed with pressure washing equipment supplied by ER. ER has resumed operations and decontamination will be conducted with their equipment and water until operations are discontinued in the fall. The equipment decontamination was completed successfully without malfunction, outer Tyvek suits were removed at the contamination reduction area. Personnel then proceeded to the support trailer to complete the decontamination and depart.

CONCLUSION

No anomalies in the alignment of the dam were noted. No bulges, surface erosion or other physical signs of failure were noted on the site. The spillways were all in good condition and no maintenance items were noted.

There has been some gravel material transport from within the embankment as indicated by gravel in the drain pipes and deposits of gravel, fine sediment and tailings in the stream channel below the drains. Now that drain flows have receded, coarse sediment and gravel transport is not occurring. Monitoring stakes have been placed in the stream channel as references to determine if transport of materials is still taking place. It is BHI's opinion that although sediment and gravel transport is noticeable, when the total volume is considered, it is possible that it is not significant and is a one time reaction to higher than normal stress on the drain system from high groundwater inflows. Even though precipitation was slightly higher than normal, the snow pack stayed later and therefore came off at a higher than normal flow. In addition, as BHI has never observed sediment transport, we have no reference to determine if it is a visual observation or a measureable amount. Sediment monitoring stations have been established and any changes will be quantified.

Groundwater flow volumes through the dam have been previously suspected to be higher than inflows but had not been quantified by BHI. Monthly readings appeared to show a slight unbalance of flows from above to below the reservoir. The normal to above normal precipitation this year has provided data that show the volume of flows through the toe drains and flume below the dam are well in excess of surface water inflows. The downloaded and processed data consistently shows that out flow volumes are 30% - 50% greater than the inflow volumes. As stated, this flow volume is likely exaggerated by the above normal flows this year but the difference is significant and shows that construction references to springs during dam construction are plausible. Because past years have been relatively dry, this flow exaggeration went unnoticed. This is partially due to the fact that monthly readings do not compare to the 30 minute readings that the transducers provide and did not allow for a thorough review of stream flow data. This relationship is significant and will be evaluated on a monthly basis to check for a consistent flow variation between inflows and outflows.

This month surface water inflows totaled 28 AF while outflows totaled 103 AF. The reservoir level did drop roughly 18 AF so the total inflow versus outflow difference is 57 AF. The average groundwater flow through the drains was 471 gpm and the average surface water inflow over the same time period is 228 gpm.

As discussed in last months report, transducer data above and below the reservoir show that inflows and outflows are in some way immediately and directly connected. We note that there is no measurable lag time between upstream flow fluctuations and downstream flow fluctuations within the 30 minute interval readings of the transducers. The flumes are 4,500 feet apart, so for a fluctuation time less than 30 minutes the water must travel at a rate greater than 2.5 feet/second between the flumes. This flow rate is only capable in open channels, open pipes, and in very pervious and cavernous groundwater conditions and is not feasible as an infiltration rate through soils or even in the coarse tailings.

Based on site specific knowledge obtained at the KDID PFMA BHI believes that there is an open pipe, open gravel seam or other conduit in the reservoir that is tying inflows directly to outflows. Construction documents revealed that the original Rainy Creek diversion passed through the reservoir and was to be filled with grout during abandonment. Very little documentation of the line exists and actual abandonment techniques are unknown. Based on the Phase 5 drawings showing a decant line location, it is feasible that the entire line was removed through the embankment as part of phase 5 but, if not, it may still exist and could be providing the connection; but his cannot be confirmed without exploration.

RECOMMENDATIONS

1. Investigate Pond Area: As previously discussed and is further corroborated this month, the rapid draining of the pond west of the access road should be investigated to determine why it occurred.

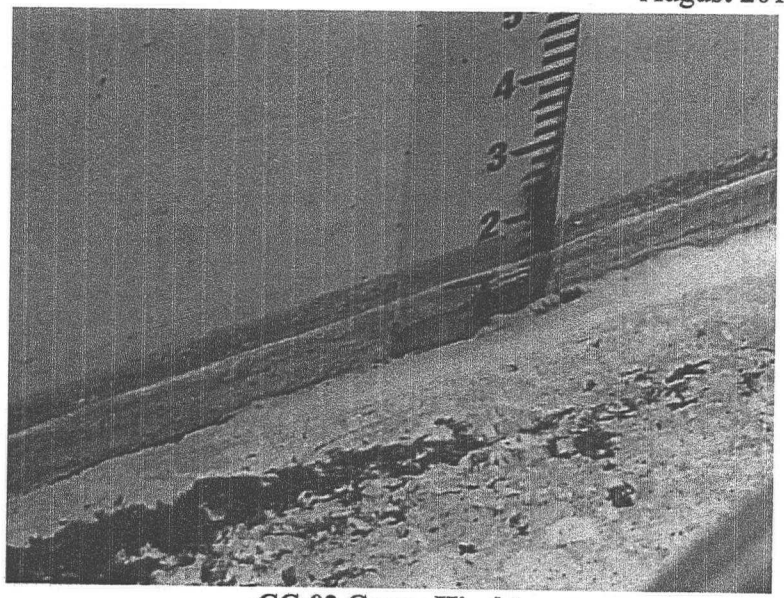
2. Drain Flows and Piezometers: Continued monitoring of all previously established monitoring devices throughout the site in order to identify relationships in water level fluctuation and their potential impact on the dam.

3. Investigate Groundwater: The recent findings that show roughly 50% of drain flow is groundwater and the volumes should be closely tracked and fully quantified.

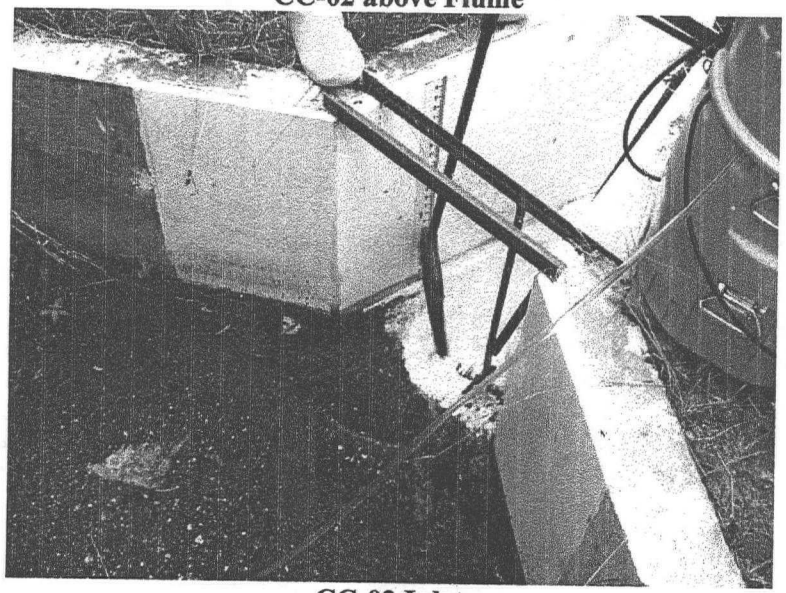
APPENDIX 1

SITE PHOTOGRAPHS

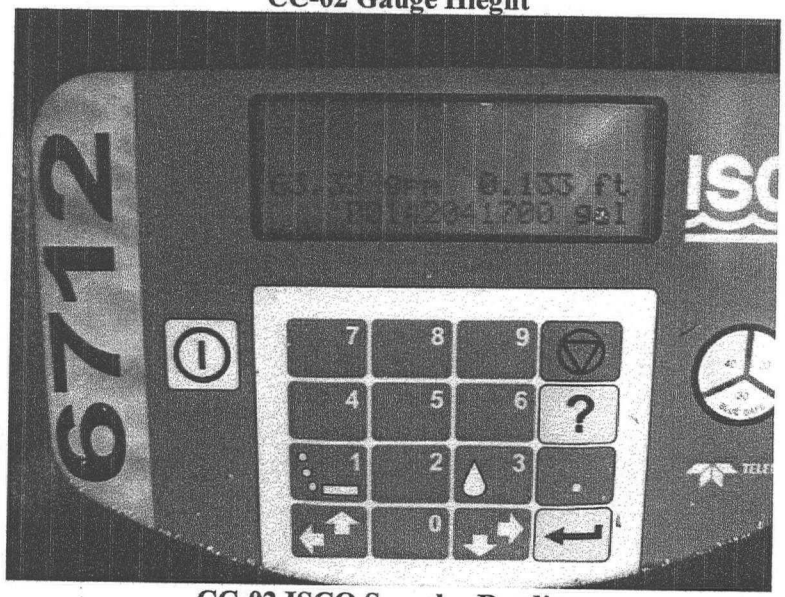
CC-02 above Flume



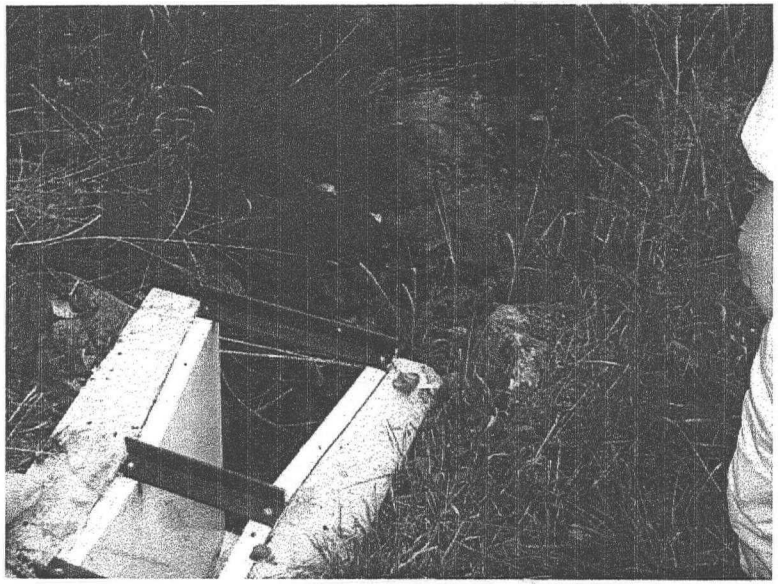
CC-02 Gauge Hieght



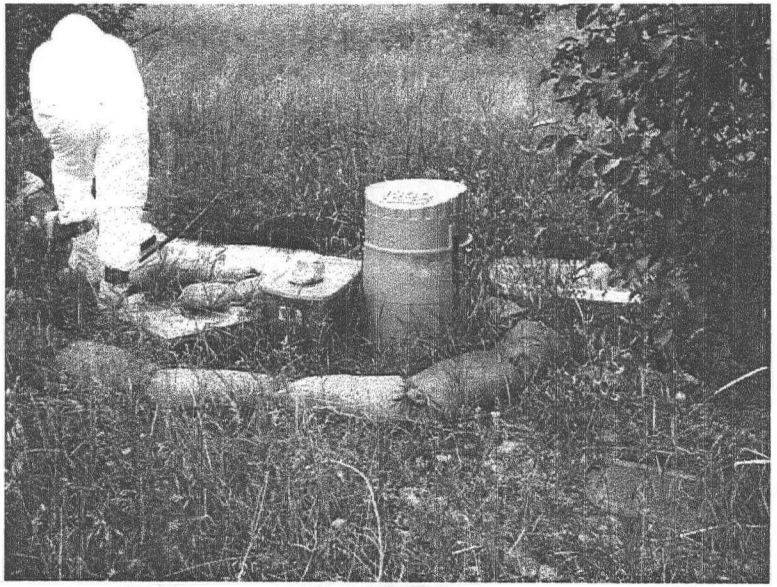
CC-02 Inlet



CC-02 ISCO Sampler Reading

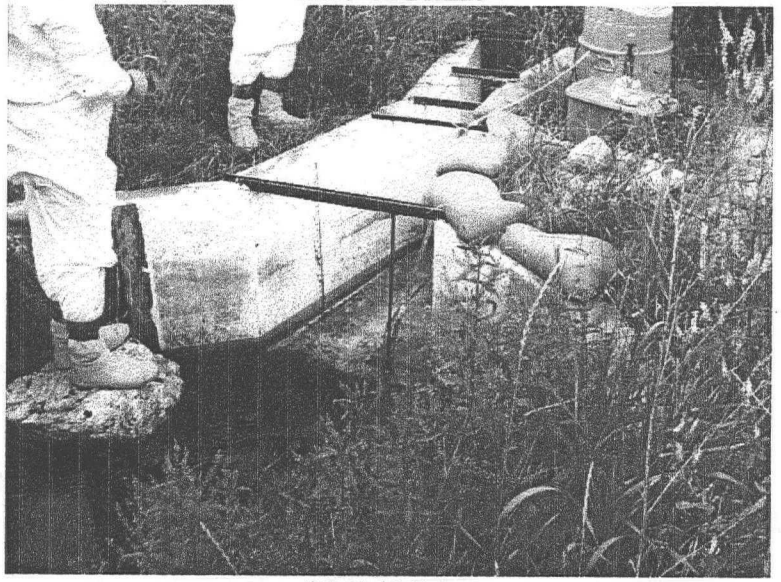


CC-02 Outlet

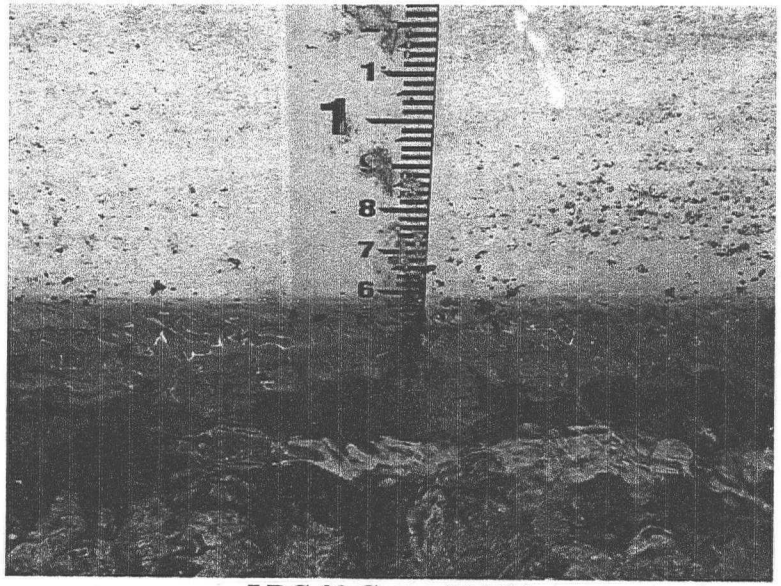


LRC-02 Flume

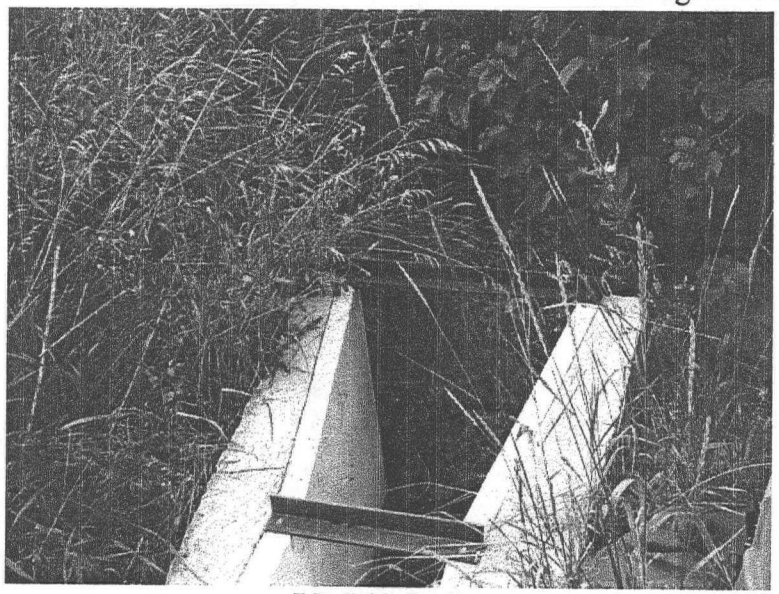
CC-02 Flume



LRC-02 Inlet

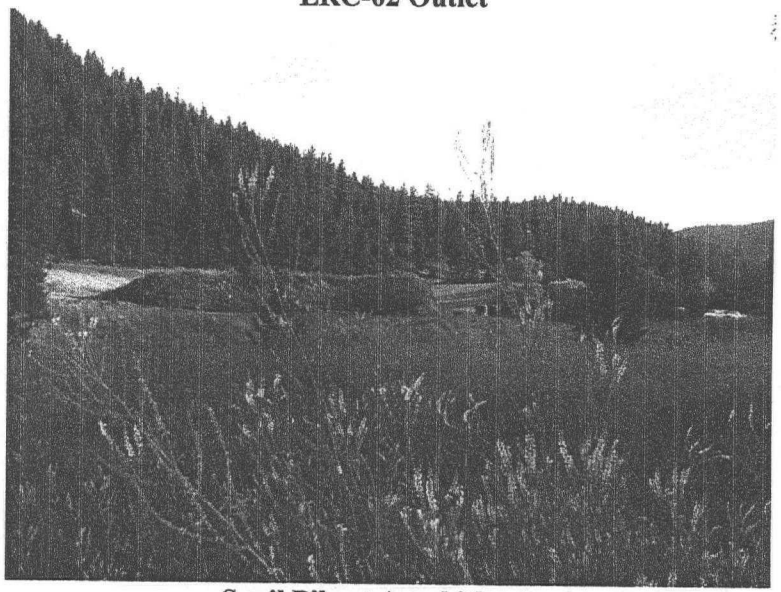


LRC-02 Gauge Height



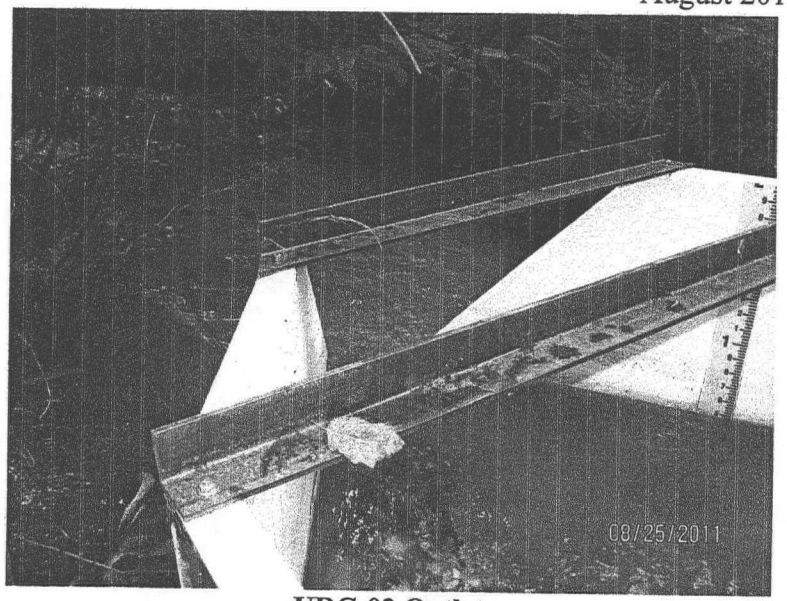
LRC-02 Outlet

LRC-02 ISCO Sampler Reading

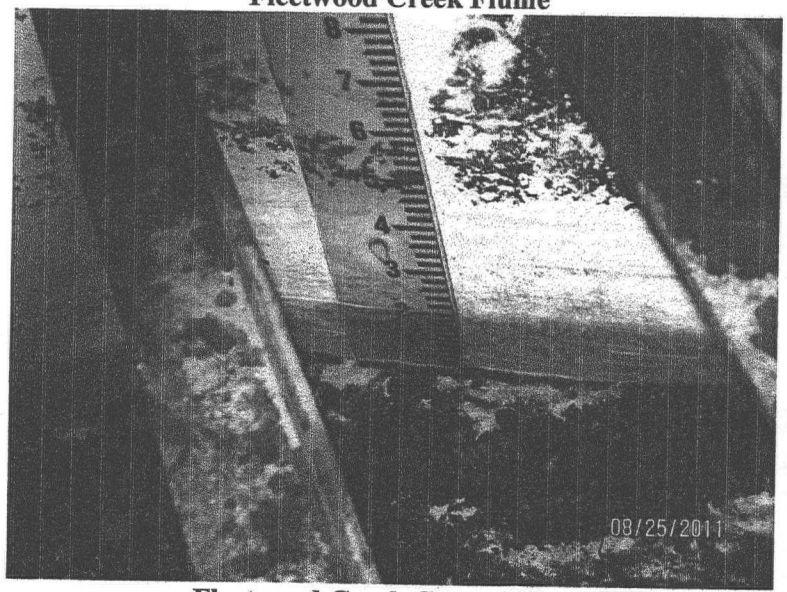


Spoil Pile at Amphitheatre

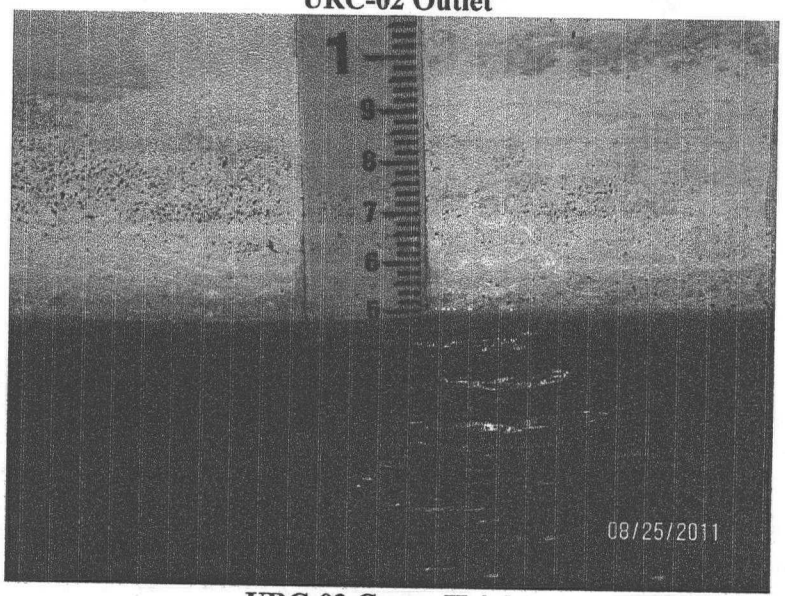
Fleetwood Creek Flume



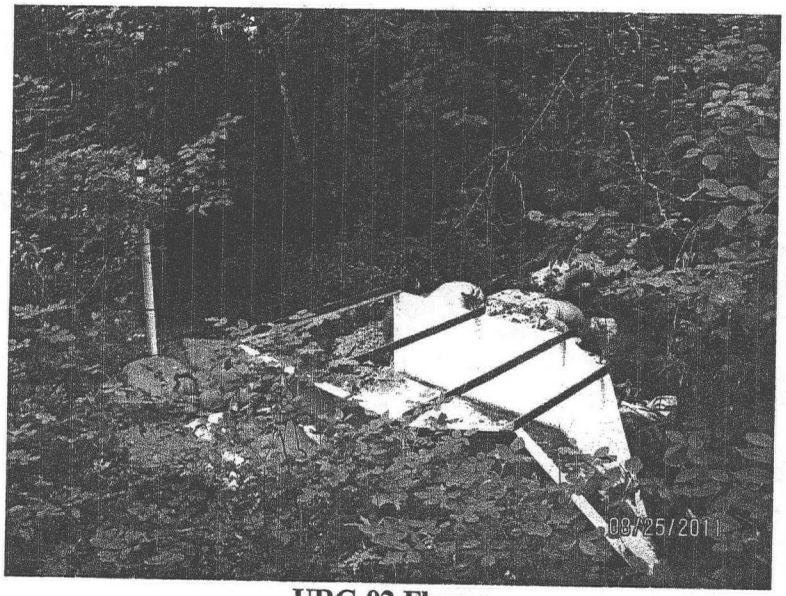
URC-02 Outlet



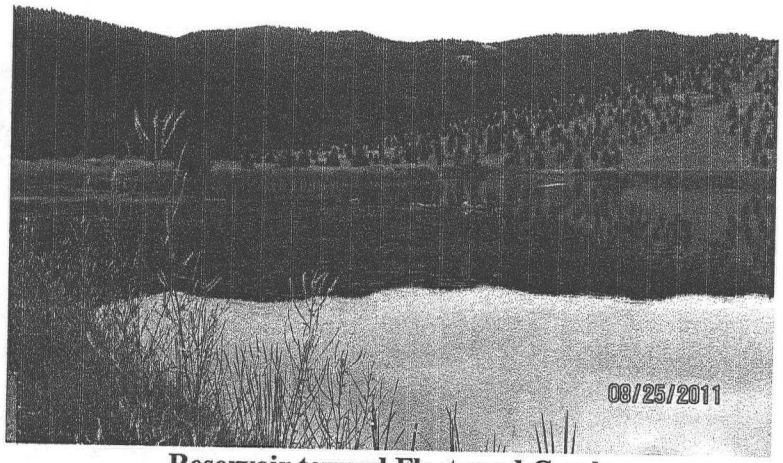
Fleetwood Creek Gauge Height



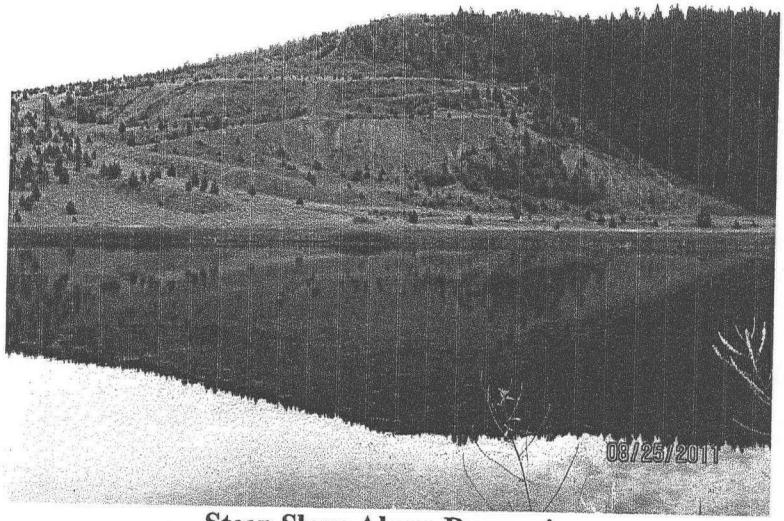
URC-02 Gauge Height



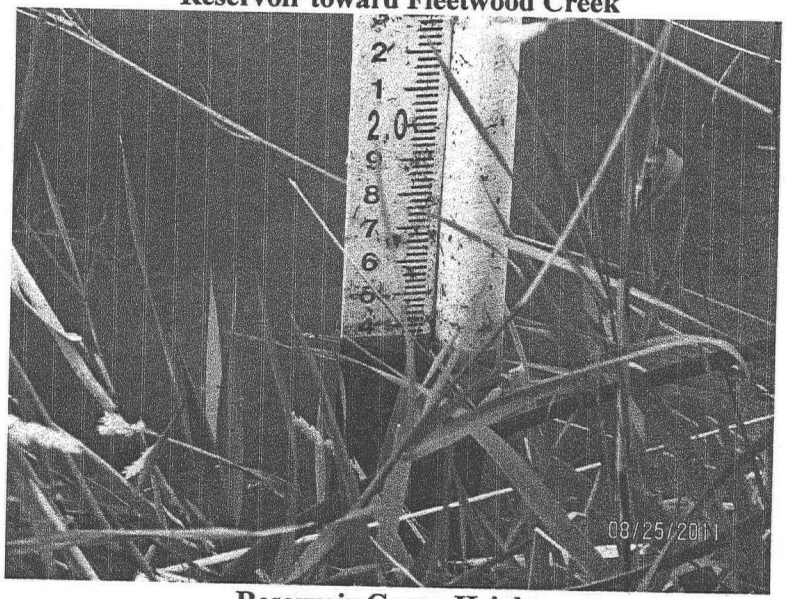
URC-02 Flume



Reservoir toward Fleetwood Creek



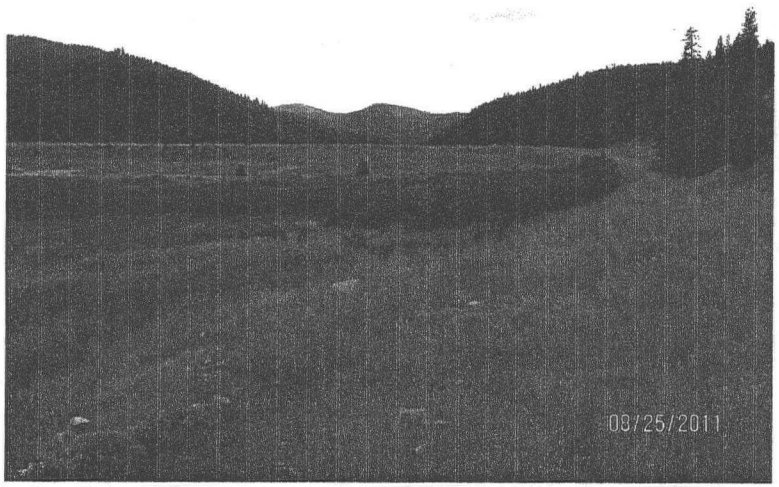
Steep Slope Above Reservoir



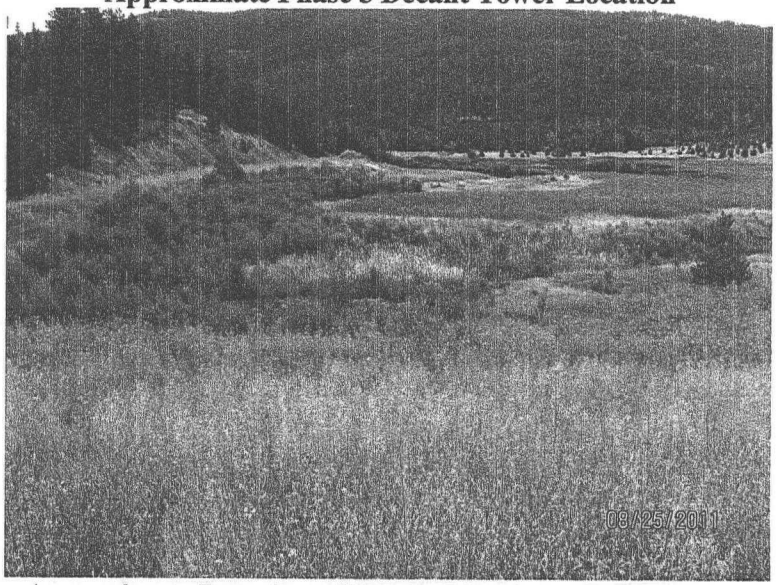
Reservoir Gauge Height

Reservoir toward Embankment Dam

Approximate Phase 5 Decant Tower Location

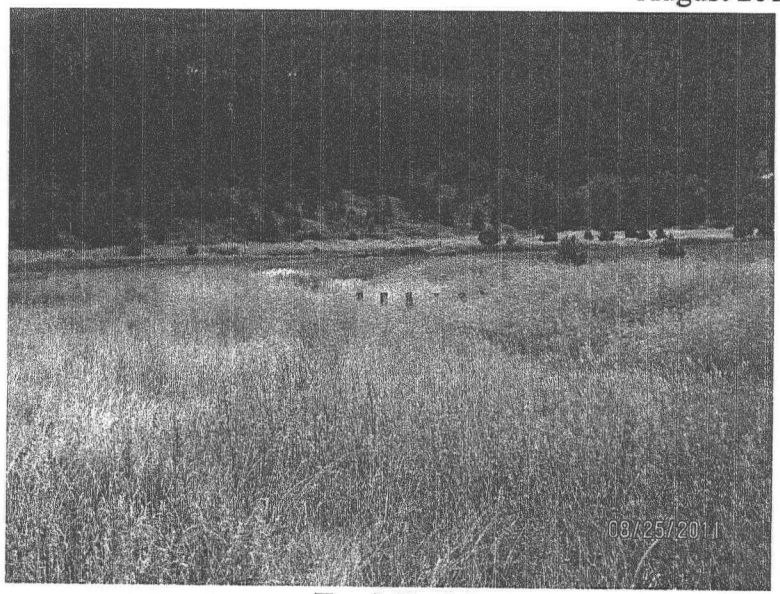


Embankment Dam from Approximate Phase 5 Decant Location

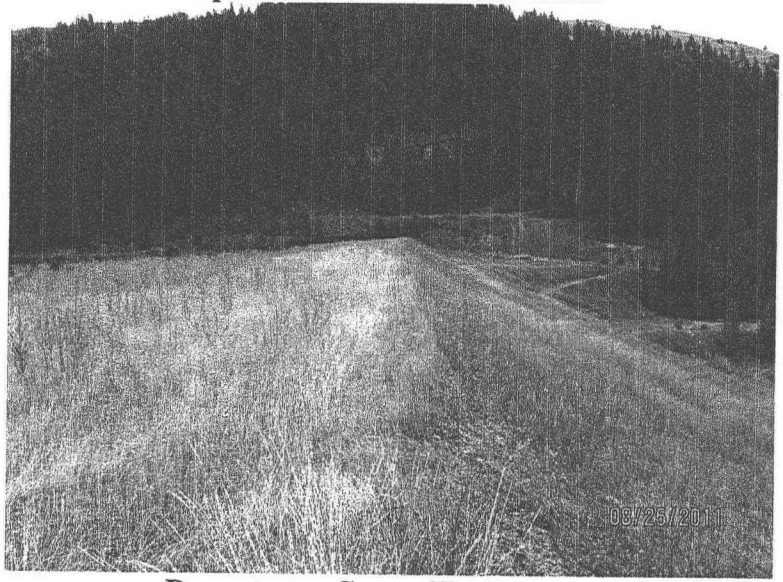


Approximate Location of Decant Line from Embankment

Upstream Crest of Embankment

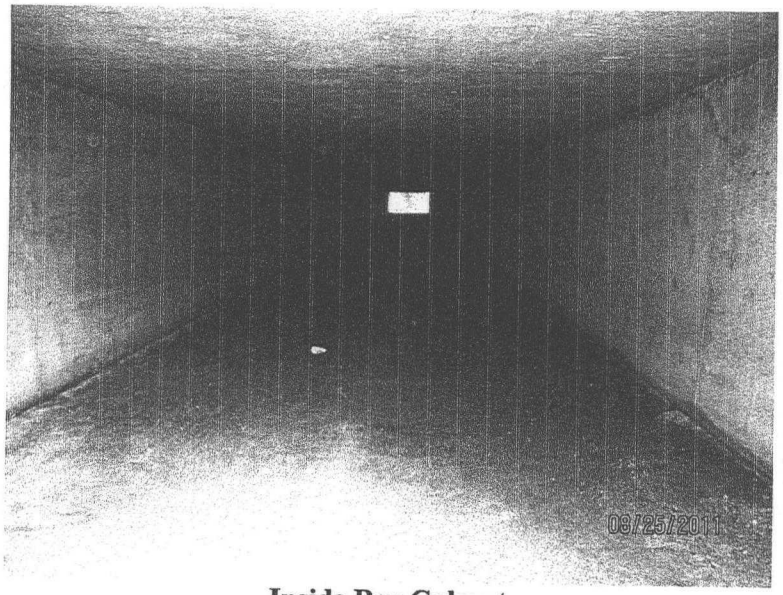


Trash Rack

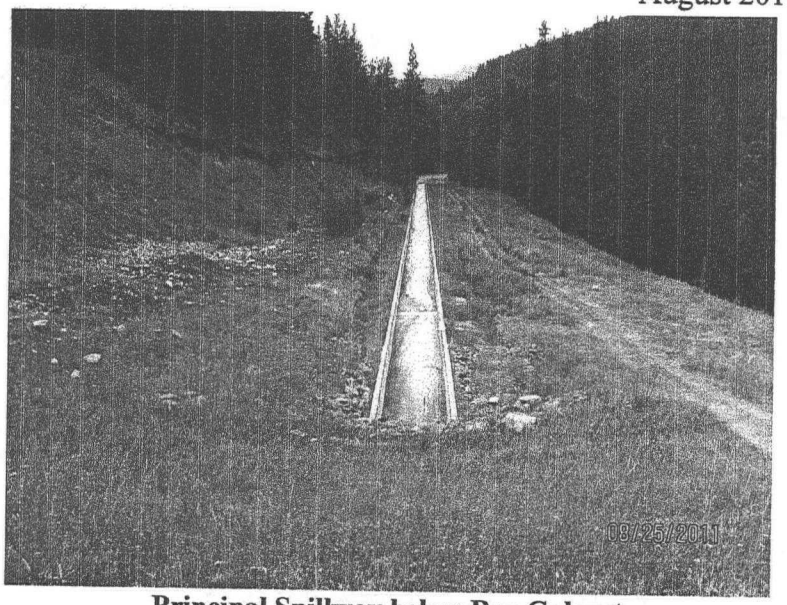


Downstream Crest of Embankment

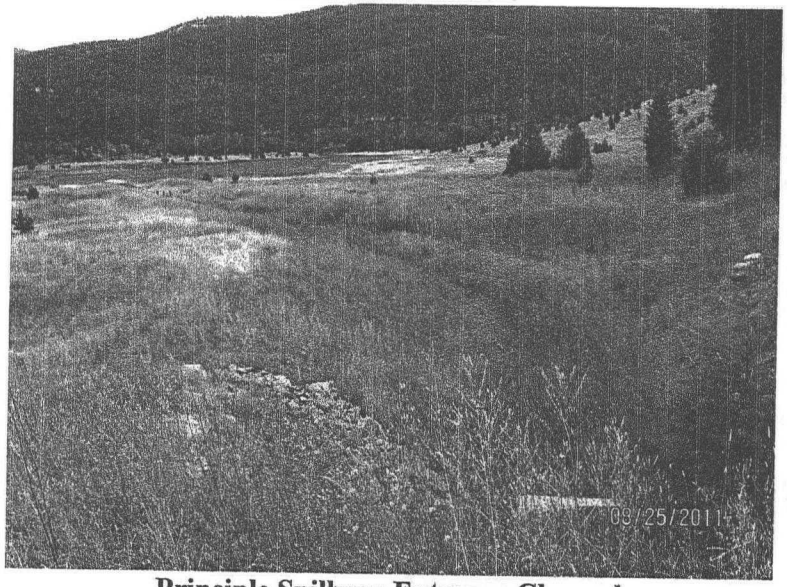
Box Culvert Entrance



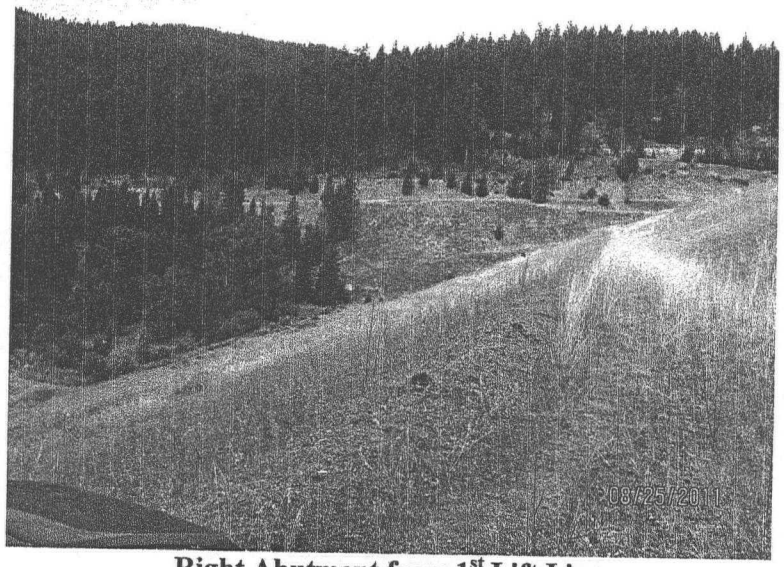
Inside Box Culvert



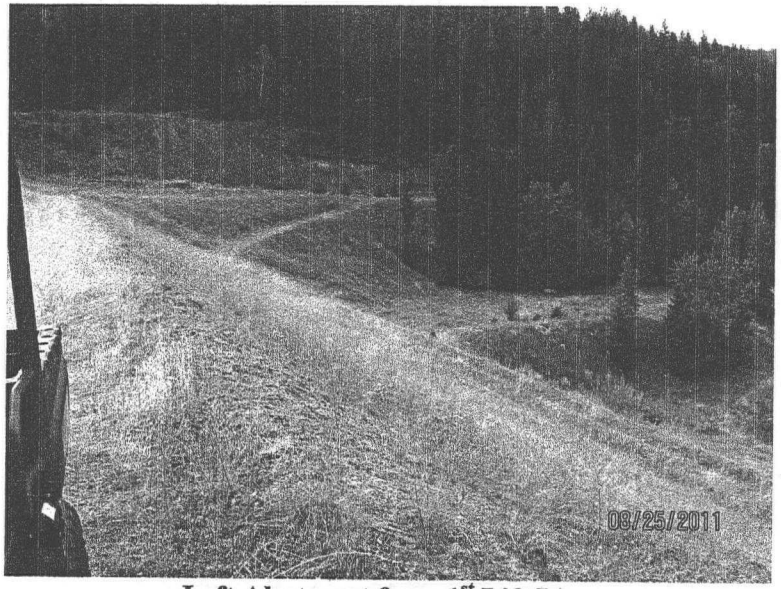
Principal Spillway below Box Culvert



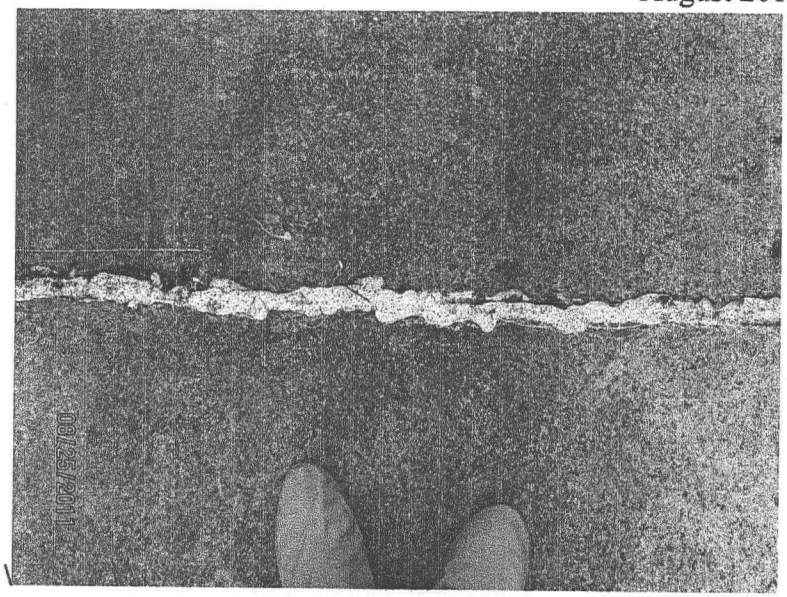
Principle Spillway Entrance Channel



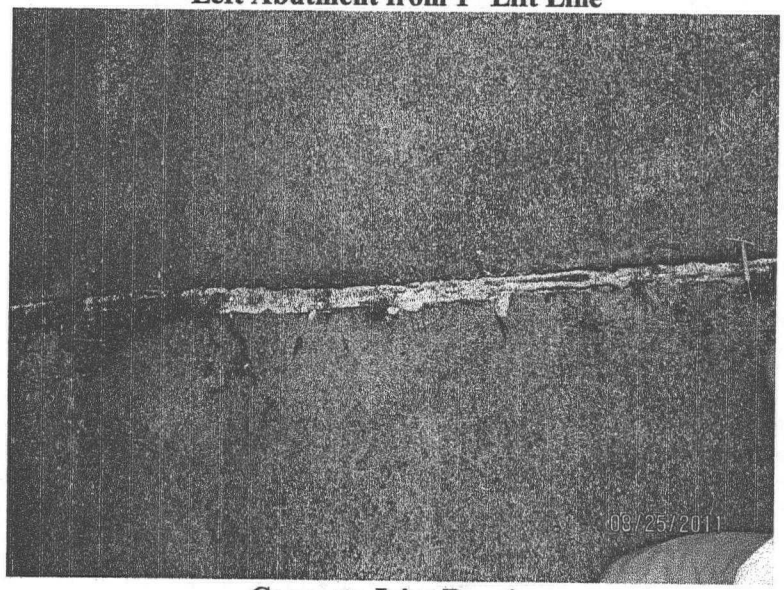
Right Abutment from 1st Lift Line



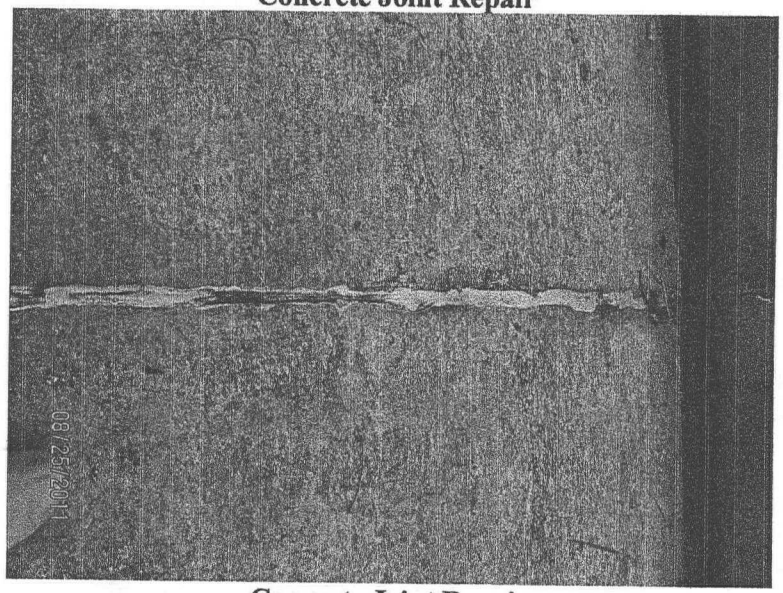
Left Abutment from 1st Lift Line



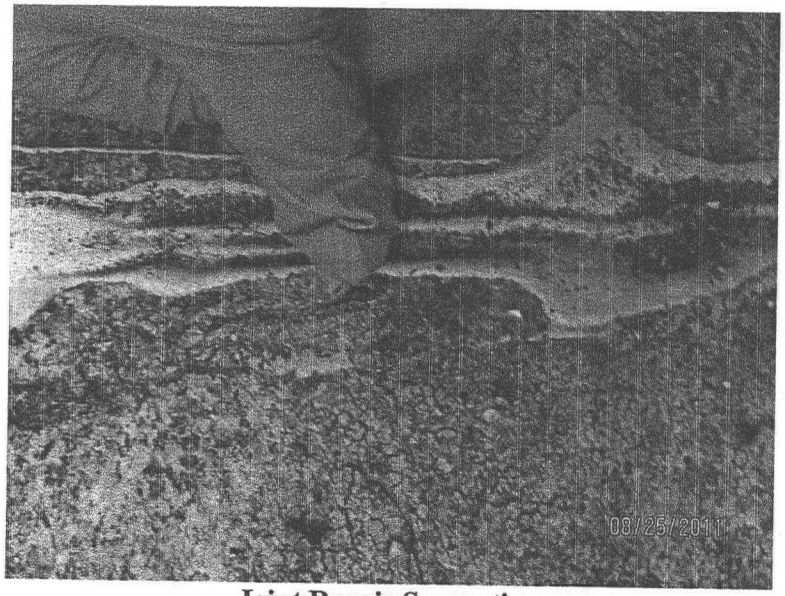
Concrete Joint Repair



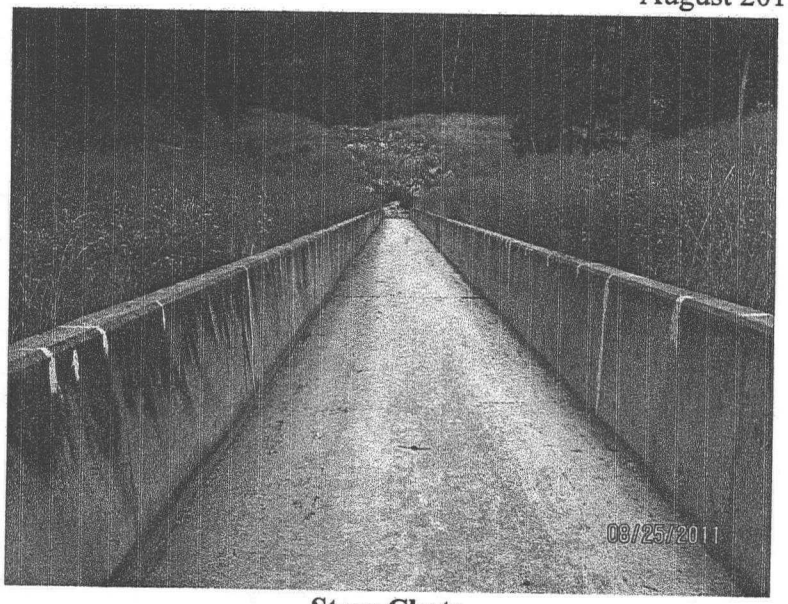
Concrete Joint Repair



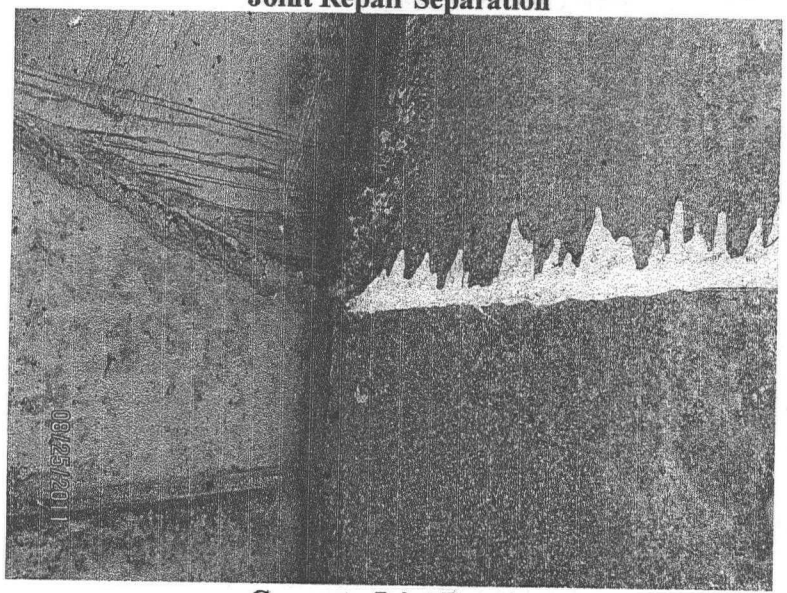
Concrete Joint Repair



Joint Repair Separation

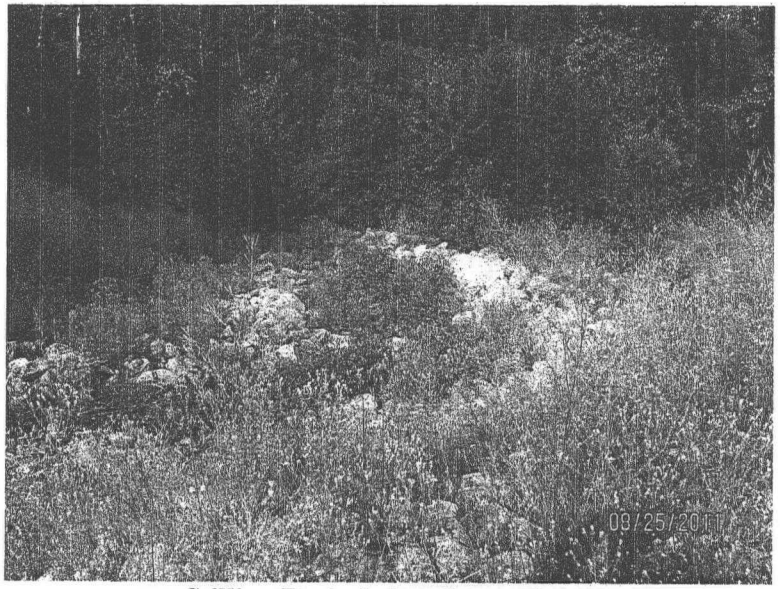


Steep Chute



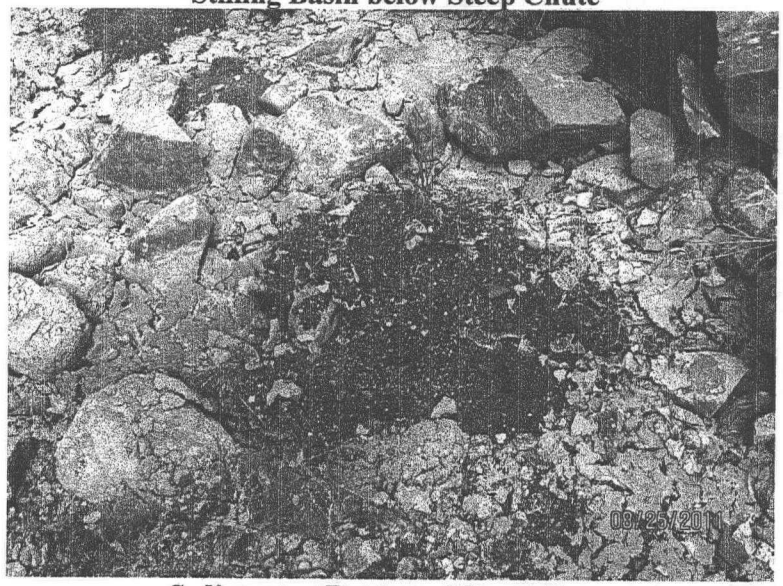
Concrete Joint Repair

Phase 5 Decant Tower Outlet

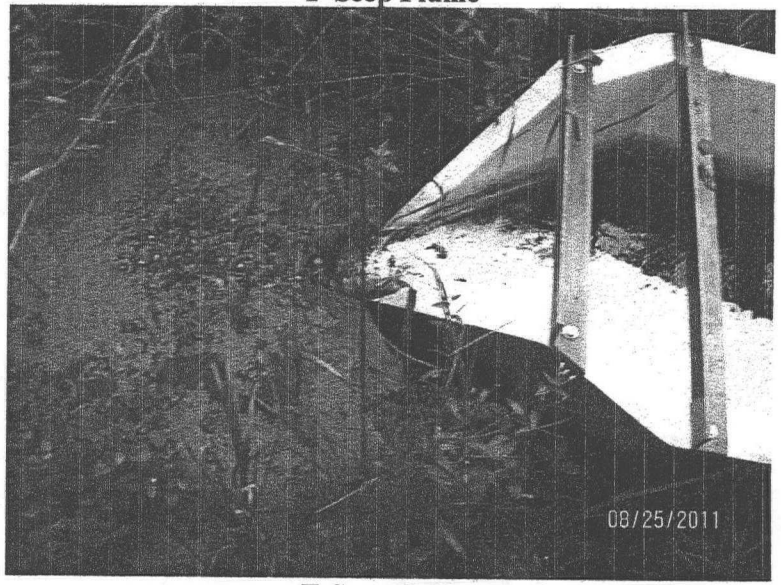


Stilling Basin below Steep Chute

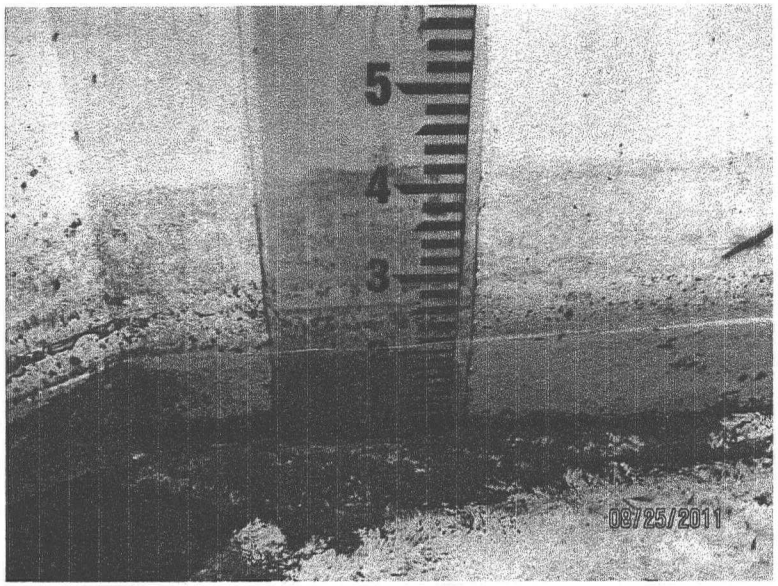
F-Seep Flume



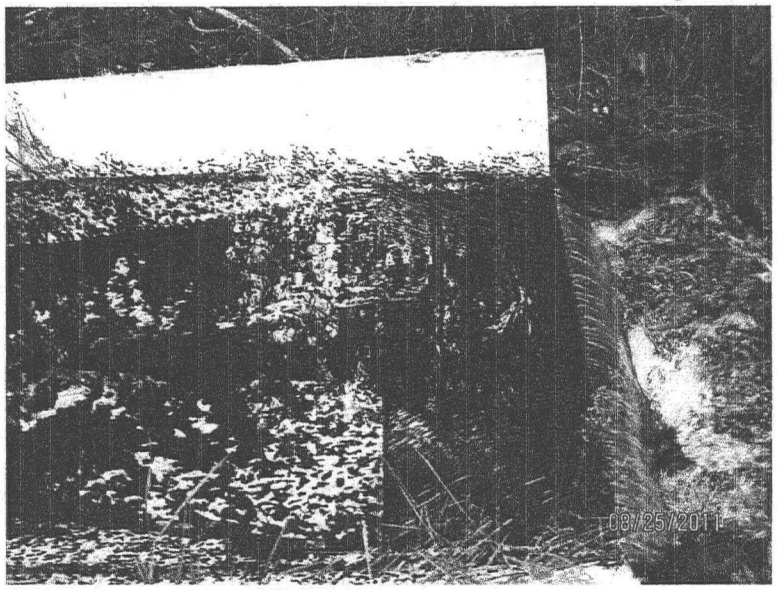
Sediment at Bottom of Steep Chute



F-Seep Outlet

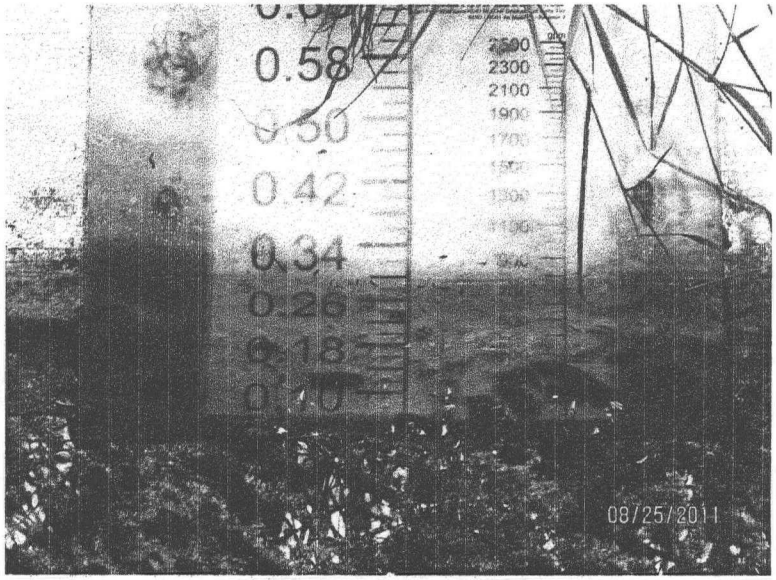


F-Seep Gauge Height

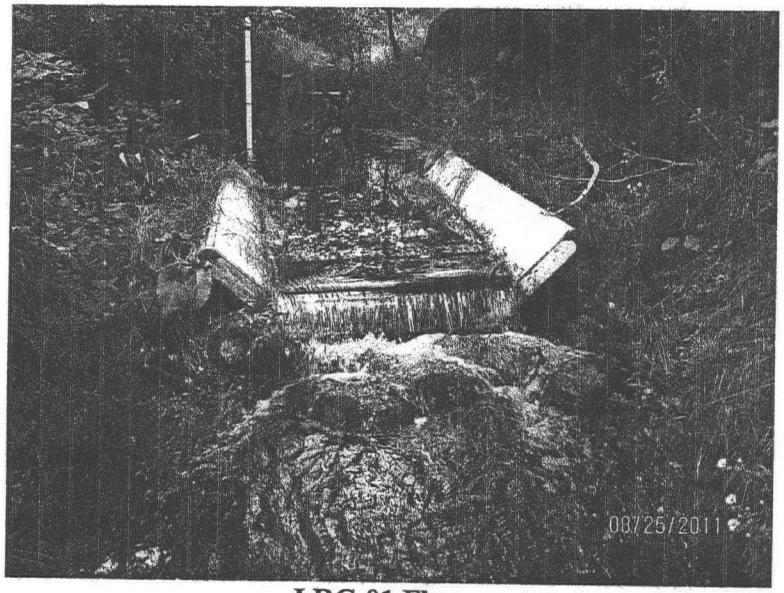


LRC-01 Flume Outlet

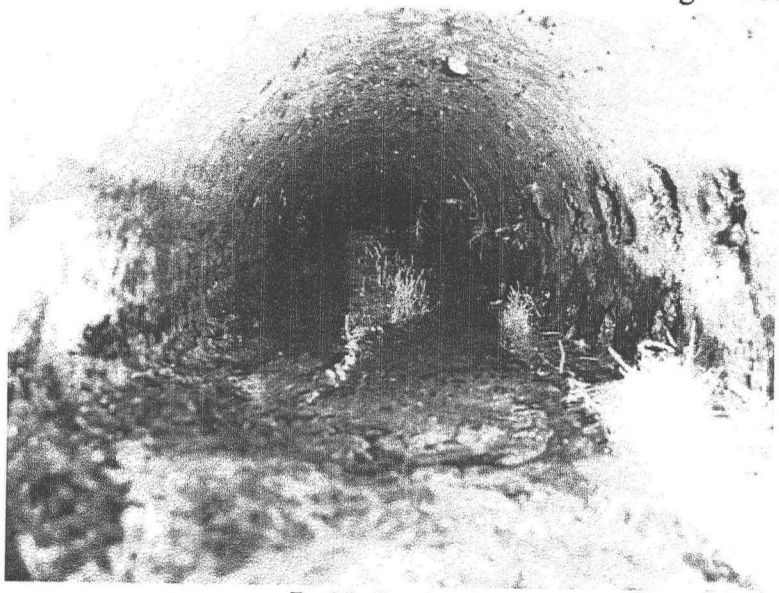
F-Seep Inlet



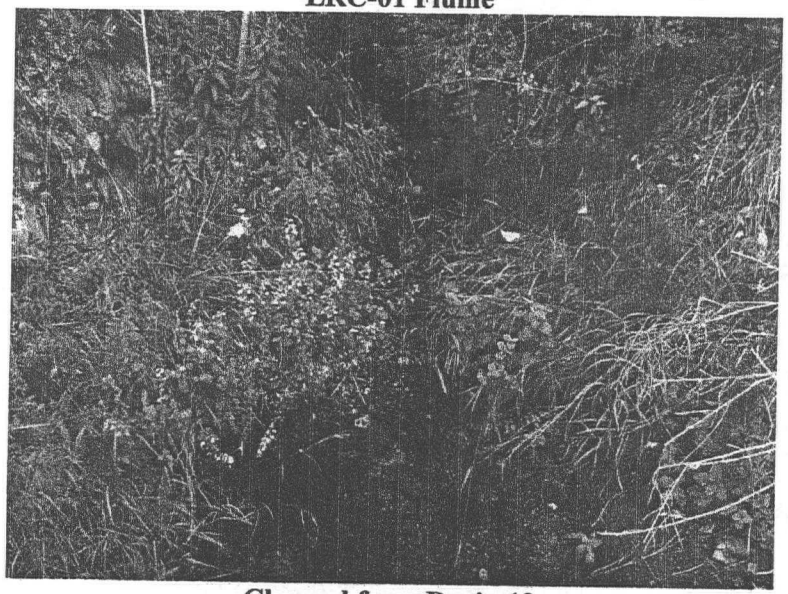
LRC-01 Gauge Height



LRC-01 Flume



Inside Drain 12



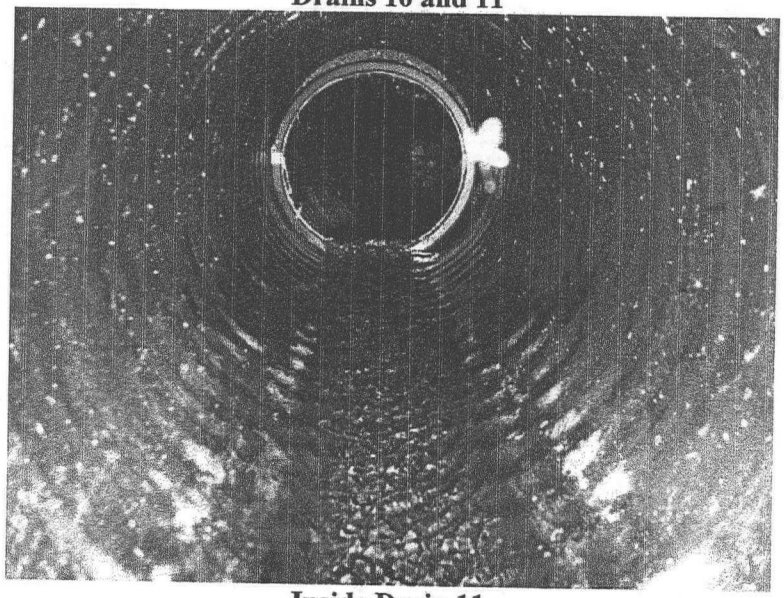
Channel from Drain 12

Sediment Monitoring Station at Drain 12 Outlet

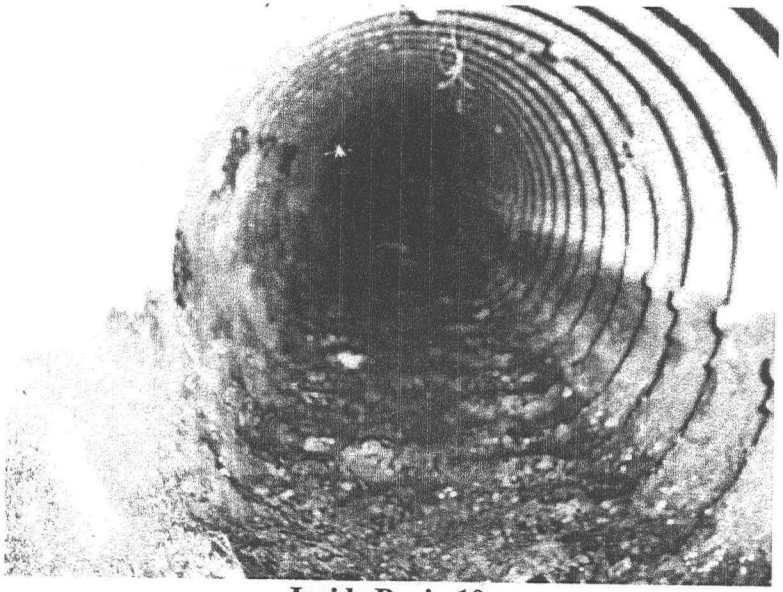
Drain 12

Drains 10 and 11

Drain 12 Weir



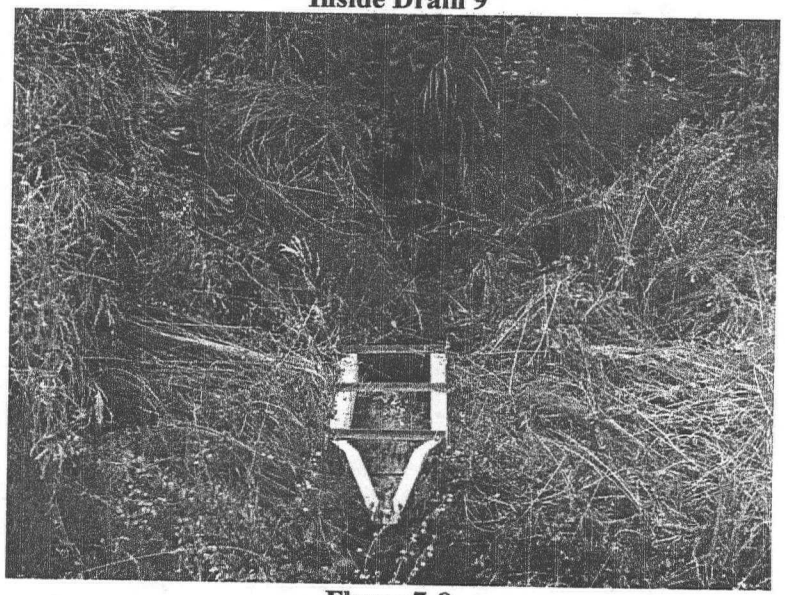
Inside Drain 11



Inside Drain 10

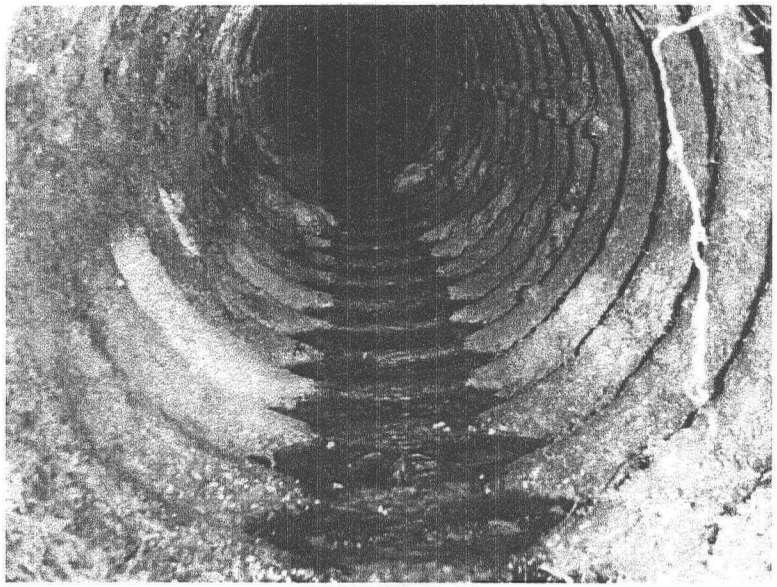
Inside Drain 9

Drain 9

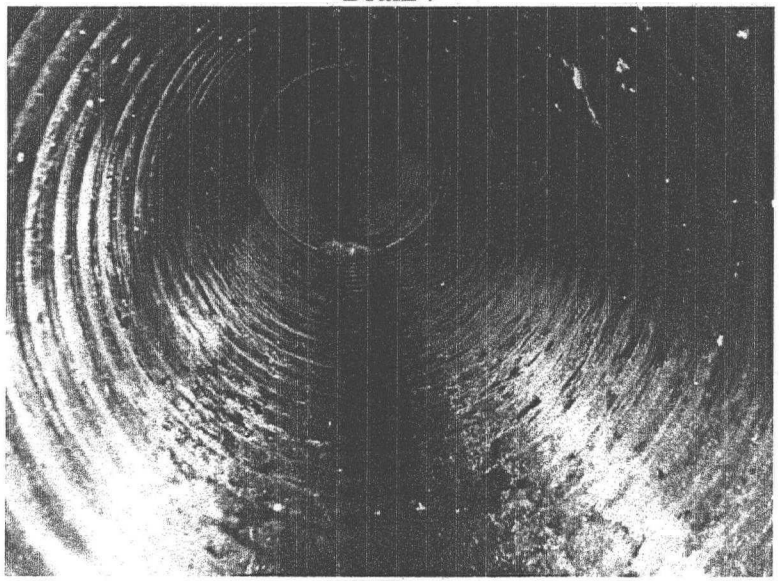


Flume 7-8

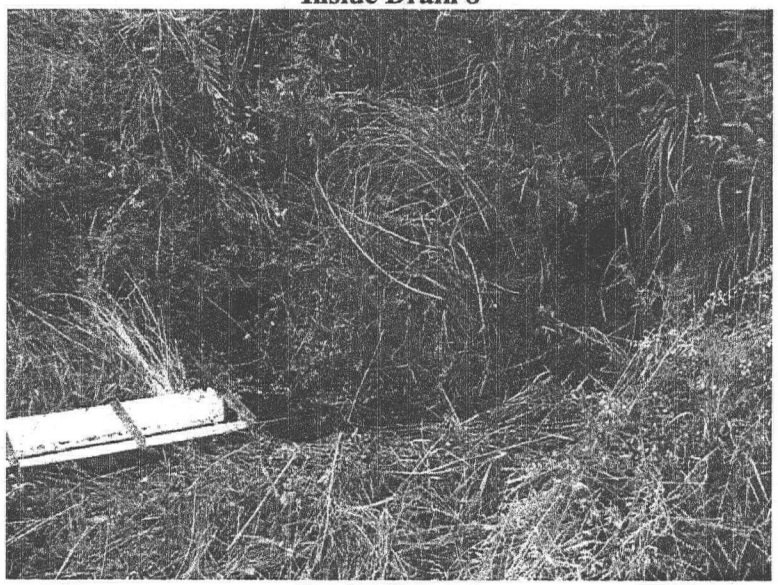
Drain 7



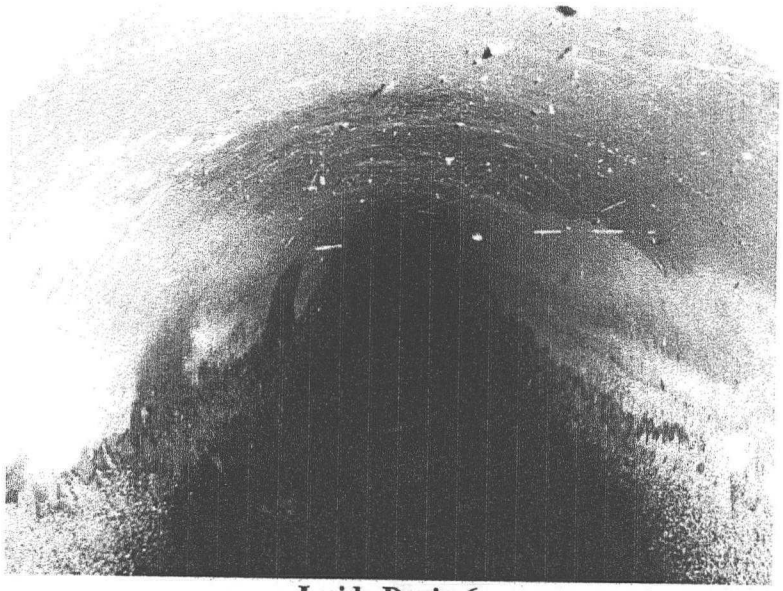
Inside Drain 8



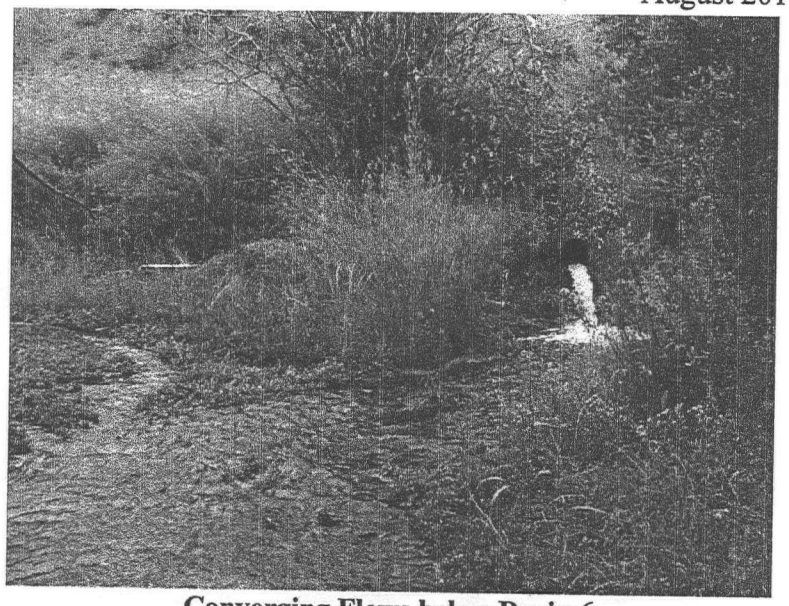
Inside Drain 7



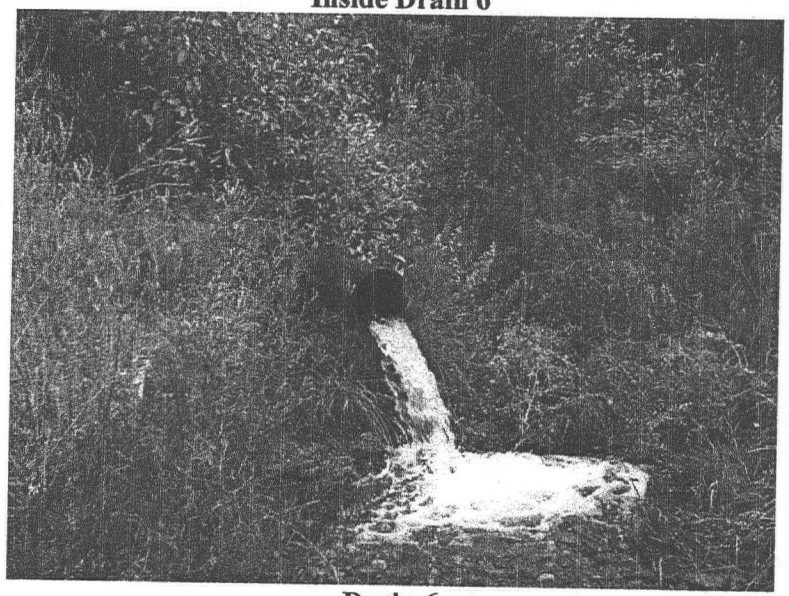
Drains 7 and 8



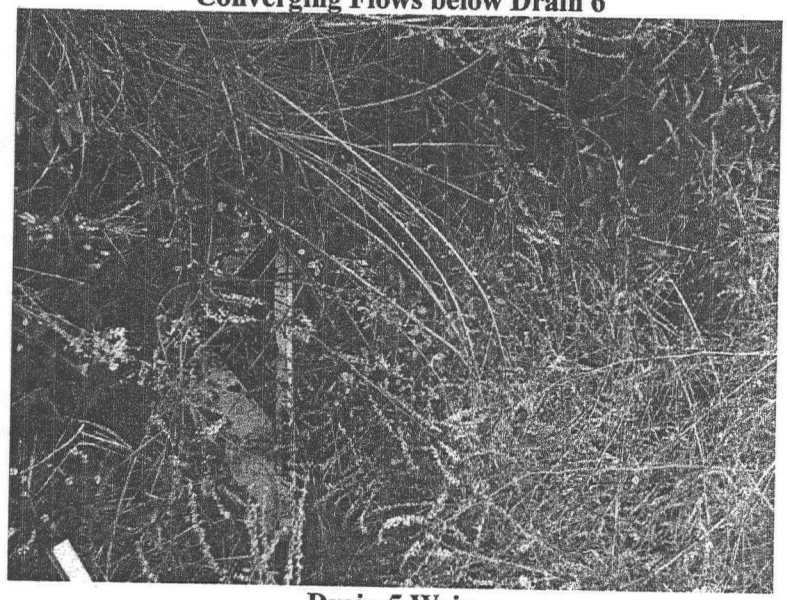
Inside Drain 6



Converging Flows below Drain 6



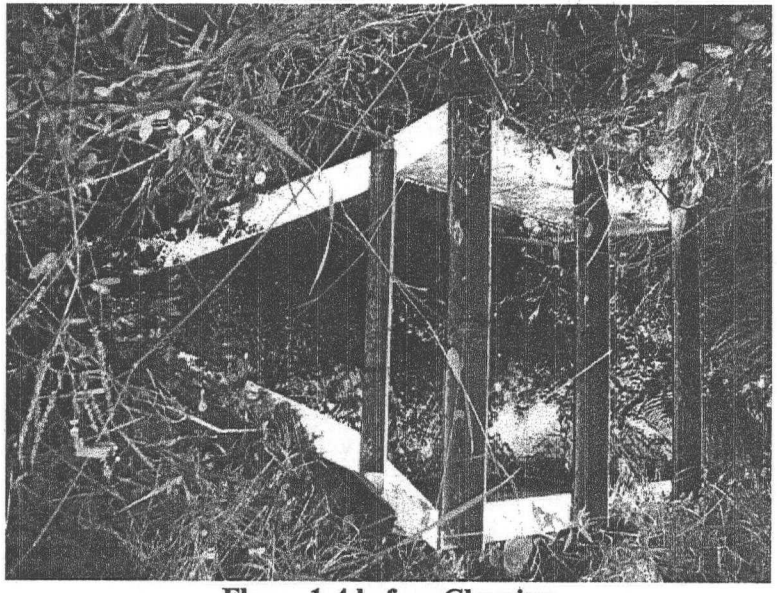
Drain 6



Drain 5 Weir

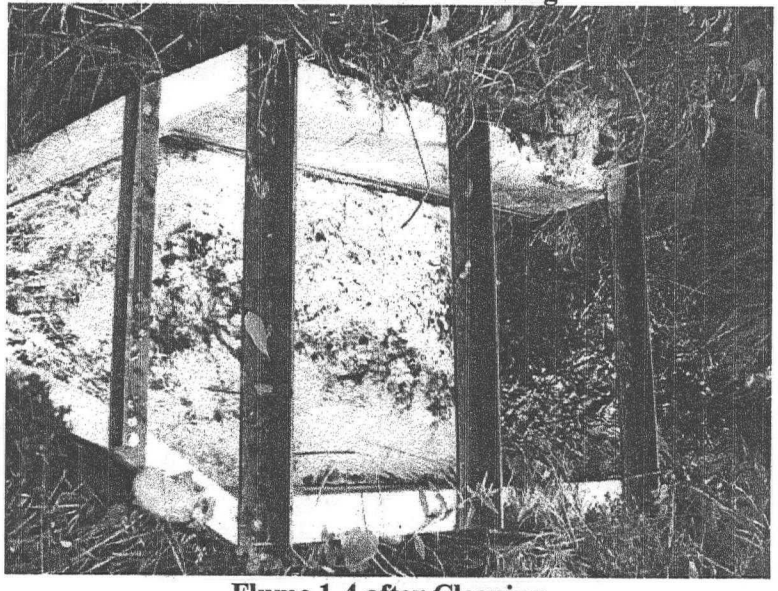
2191 Third Ave. East • P.O. Box 1139 Kalispell, MT 59903-1139 Phone: 406-257-8708 Fax: 406-257-8710

Sediment behind Weir 5



Flume 1-4 before Cleaning

Drain 5

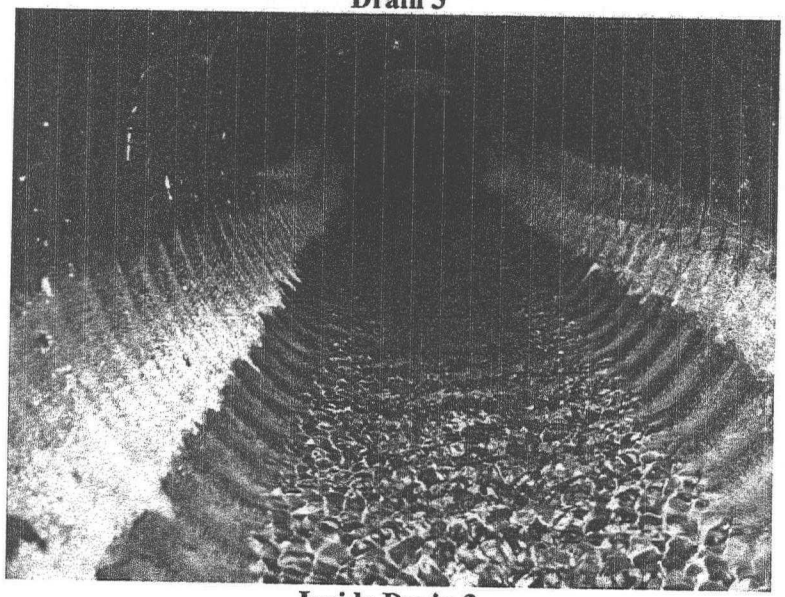


Flume 1-4 after Cleaning

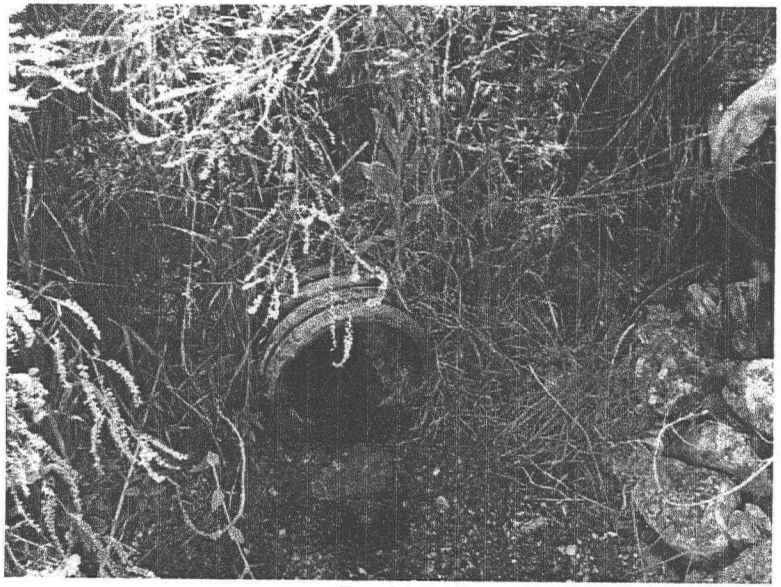
Drain 4

Drain 3

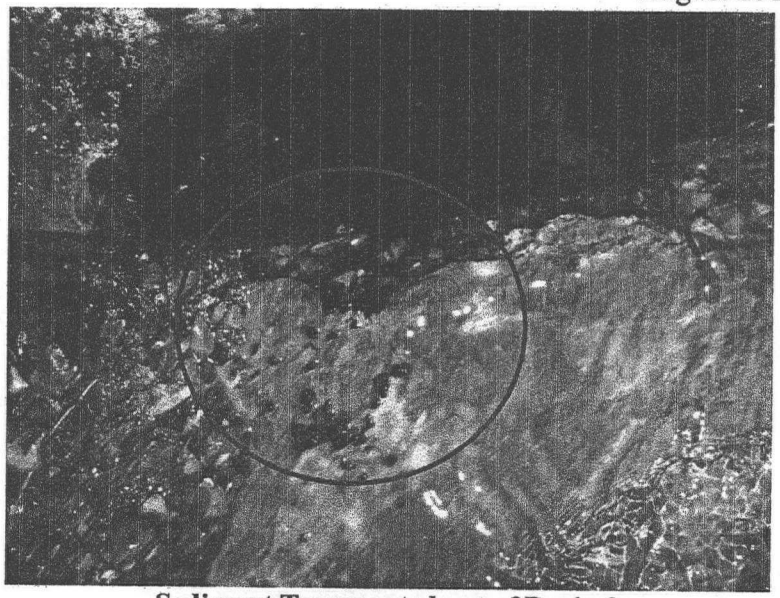
Inside Drain 4



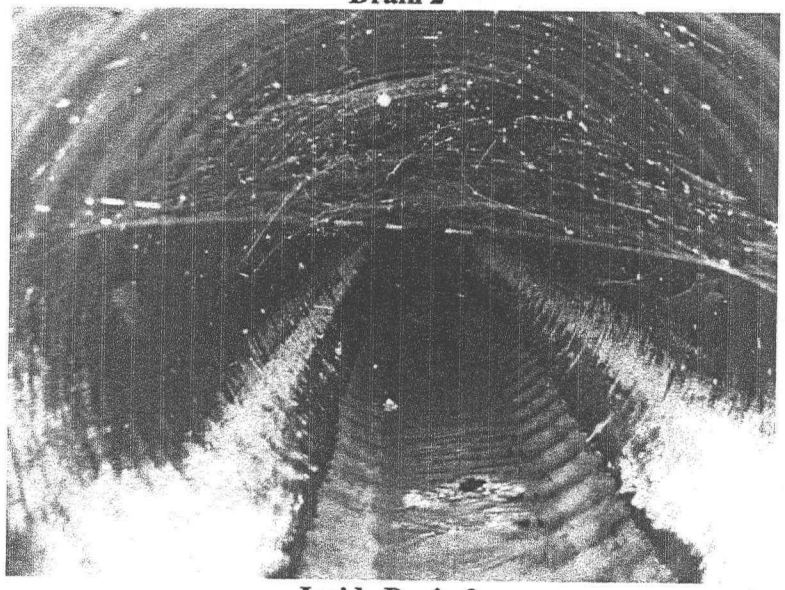
Inside Drain 3



Drain 2



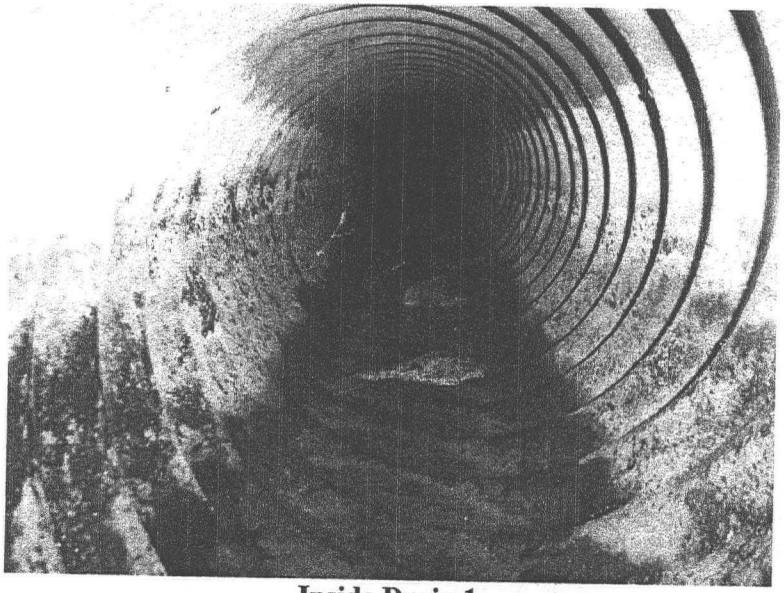
Sediment Transported out of Drain 2



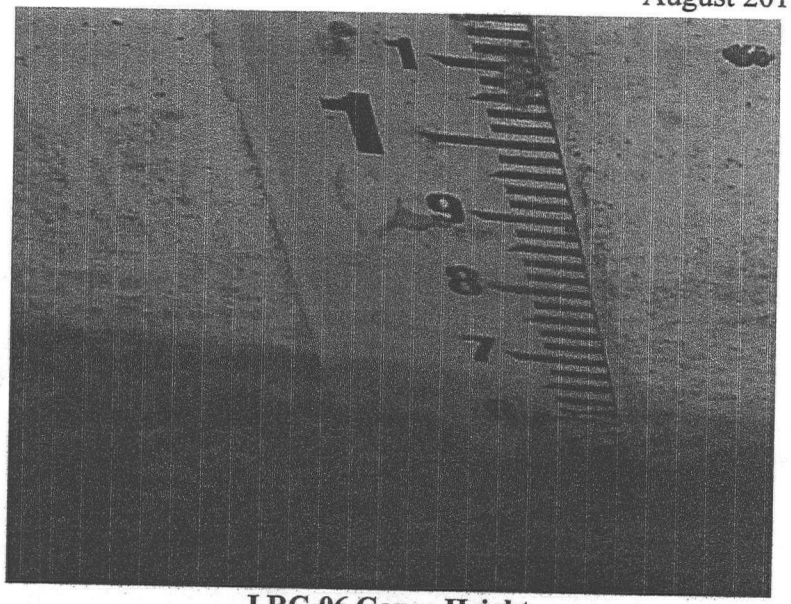
Inside Drain 2

Drain 1

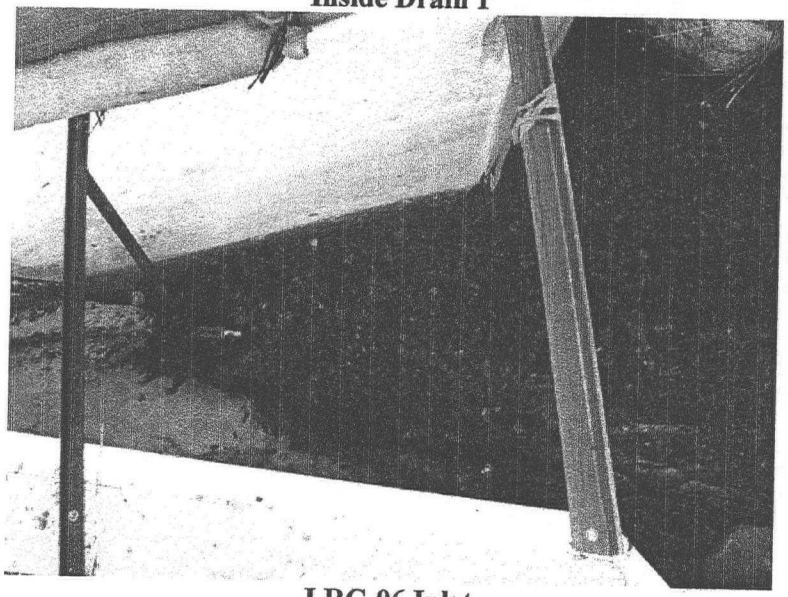
2191 Third Ave. East • P.O. Box 1139 Kalispell, MT 59903-1139 Phone: 406-257-8708 Fax: 406-257-8710



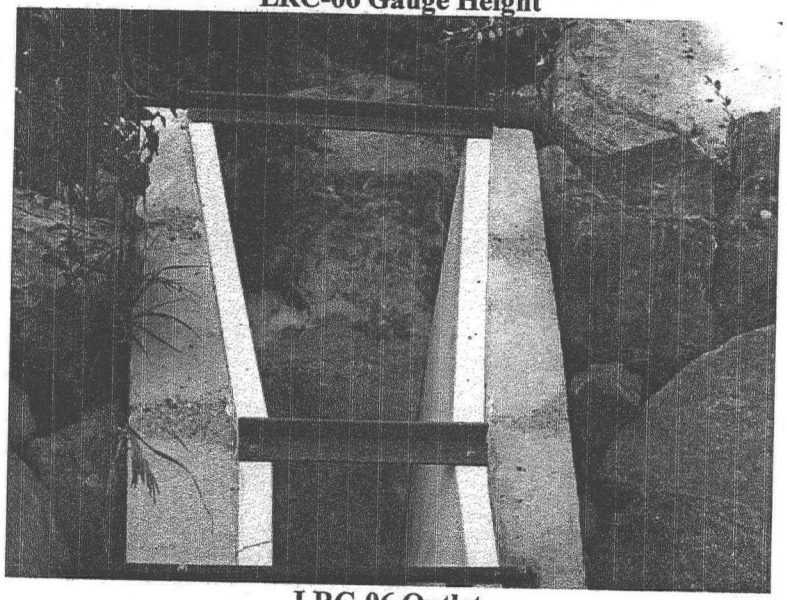
Inside Drain 1



LRC-06 Gauge Height



LRC-06 Inlet



LRC-06 Outlet

2191 Third Ave. East • P.O. Box 1139 Kalispell, MT 59903-1139 Phone: 406-257-8708 Fax: 406-257-8710

APPENDIX 2

PERIODIC INSPECTION REPORT & FIELD NOTES

PRINCIPAL INSPECTOR ON SITE: Kurt Hafferman, P.E.	OBSERVATION DATE (S)	25-Aug-11
OTHER PERSONNEL ON SITE: Dan Nelson from BHI and Jeremy Peterson from Chapman Const.	WEATHER CONDITIONS	Clear, warm ~65°, Calm
Work Tasks: Measure flows, check URC02 and Fleetwood Creek, take reservoir level, measure piezometers, check drains, drain flow, gauge height at LRC01, CC02 , LRC02 and LRC06, Download transducers.	EQUIPMENT	Well probe, long fiberglass tape, camera, flashlight,misc. field equip.

EMBANKMENT

AREA INSPECTED	ITEM NO.	CONDITION	OBSERVATION	CHECK ACTION NEEDED: MONITOR	INVESTIGATE	REPAIR	OTHER
CREST	1	GENERAL SURFACE CONDITION	Good, no change				
	2	DISPLACEMENTS	None				
	3	EROSION	None				
	4	CREST ALIGNMENT	Good, no change				
	5	WEEDS OR BRUSH	No change				
	6	ANIMAL BURROWS	No change				
	7	EARTHEN EMERGENCY SPILLWAY	Good, no change				
	8						
	9						
UPSTREAM FACE	10	SLIDES, DISPLACEMENT OR BUDGES	None				
	11	EROSION	None				
	12	WEEDS OR BRUSH	No change				
	13	PIEZOMETER CASINGS	Good, no change				
	14	ABUTMENT CONTACTS	Good, no change				
	15	ANIMALS BURROWS	No change				
	16	DISTANCE TO WATER	~250 ft. reservoir GH= 1.37 feet				
	17						
	18						
	19						

ADDITIONAL COMMENTS, REFER TO ITEM NO. IF APPLICABLE

KOOTENAI DEVELOPMENT IMPOUNDMENT DAM ROUTINE OWNERS INSPECTION REPORT

PRINCIPAL INSPECTOR ON SITE: Kurt Hafferman, P.E.	OBSERVATION DATE (S)	8/25/11
OTHER PERSONNEL ON SITE: Dan Nelson from BHI and Jeremy Peterson from Chapman Const.	WEATHER CONDITIONS	Clear, warm ~65°, Calm
Work Tasks: Measure flows, check URC02 and Fleetwood Creek, take reservoir level, measure piezometers, check drains, drain flow, gauge height at LRC01, CC02 , LRC02 and LRC06, Download transducers.	EQUIPMENT	Well probe, long fiberglass tape, camera, flashlight,misc. field equip.

AREA INSPECTED	ITEM NO.	DOWNSTREAM AND INSTRUMENTATION CONDITION	OBSERVATION	CHECK ACTION NEEDED: MONITOR	INVESTIGATE	REPAIR	OTHER
DOWNSTREAM SLOPE	20	GENERAL SURFACE CONDITION	Good no change				
	21	DISPLACEMENTS	None				
	22	EROSION	None				
	23	LIFT ALIGNMENTS	Good				
	24	WEEDS OR BRUSH	No change				
	25	ANIMALS BURROWS	No change				
	26	EARTHEN EMERGENCY SPILLWAY	Good, no change				
	27	SEEPAGE	None				
	28	ABUTMENT CONTACTS	Good, no change				
INSTRUMENTATION	29	PIEZOMETERS	Measured, see attached measurements	X			
	30	WEIRS	Gauges read, see attached	X			
	31	FLUMES	Gauges read, see attached	X			
	32	RESERVOIR LEVELS	GH = 1.37' Approx. 33.21 AF	X			
	33	RAINY CREEK INFLOW MEASUREMENTS @ URC02	GH= 0.49, 219 gpm	X			
	34	RAINY CREEK OUTFLOW BELOW DAM @ LRC01	GH= 0.30, 684 gpm	X			
	35	STREAM OUTFLOW BELOW MILL POND @LRC02	GH=0.58, 783 gpm	X			
	36	STREAM OUTFLOW FROM CARNEY CREEK @CC02	GH=0.14, 67.32 gpm	X			
	37	STREAM OUTFLOW FROM RAINY CREEK @LRC06	GH=0.65, 909 gpm	X			
	38	FLUME 1-2-3-4	GH=0.25, 40.4 gpm	X			

ADDITIONAL COMMENTS REFER TO ITEM NO. IF APPLICABLE

KOOTENAI DEVELOPMENT IMPOUNDMENT DAM ROUTINE OWNERS INSPECTION REPORT

PRINCIPAL INSPECTOR ON SITE: Kurt Hafferman, P.E.	*OBSERVATION DATE (S)*	*8/25/11*
OTHER PERSONNEL ON SITE: Dan Nelson from BHI and Jeremy Peterson from Chapman Const.	WEATHER CONDITIONS	*Clear, warm ~65°, Calm*
Work Tasks: Measure flows, check URC02 and Fleetwood Creek, take reservoir level, measure piezometers, check drains, drain flow, gauge height at LRC01, CC02, LRC02 and LRC06, Download transducers.	*EQUIPMENT*	*Well probe, long fiberglass tape, camera, flashlight,misc. field equip.*

AREA INSPECTED	ITEM NO.	INSTRUMENTATION (CONT.) AND DOWNSTREAM TOE AREA CONDITION	OBSERVATION	CHECK ACTION NEEDED MONITOR	INVESTIGATE	REPAIR	OTHER
INSTRUMENTATION (CONT.)	39	FLUME 10-11-12	Removed, no longer used				
	40	FLUME 7-8	GH=0.10, 4.53 gpm	X			
	41	WEIR 5	GH= 0.146, 9.46 gpm	X			
	42	WEIR 12	GH=0.333, 73.1 gpm	X			
	43	DRAIN 6	GH=0.849, 294.4 gpm	X			
	44	SPILLWAY FLOW	GH=0.00 - Not Running	X			
	45	F-Seep	GH=0.21, est. 28.3 gpm	X			
	46	Drain 2	Water continuing to flow	X	X		
	47	Drain 1	No Flow	X			
DOWNSTREAM TOE	48	ABUTMENTS	Good, no change				
	49	SEEPAGE NEAR TOE	Not noticed	X			
	50	SEEPAGE DOWNSTREAM OF TOE, LEFT SIDE	Not noticed	X			
	51	SEEPAGE IN STREAM CHANNEL, LEFT SIDE	Seepage near LRC-01 but receeding	X	X		
	52	VEGETATION	Unchanged in last month	X			
	53	CULVERT AT LOWER ROAD	Not monitored				
	54	SEEPAGE DOWNSTREAM OF TOE, RIGHT SIDE	Not noticed	X			
	55						
	56						

ADDITIONAL COMMENTS, REFER TO ITEM NO. IF APPLICABLE

KOOTENAI DEVELOPMENT IMPOUNDMENT DAM ROUTINE OWNERS INSPECTION REPORT

PRINCIPAL INSPECTOR ON SITE: Kurt Hafferman, P.E.	OBSERVATION DATE (S)	8/25/11
OTHER PERSONNEL ON SITE: Dan Nelson from BHI and Jeremy Peterson from Chapman Const.	WEATHER CONDITIONS	Clear, warm ~65°, Calm
Work Tasks: Measure flows, check URC02 and Fleetwood Creek, take reservoir level, measure piezometers, check drains, drain flow, gauge height at LRC01, CC02, LRC02 and LRC06, Download transducers.	EQUIPMENT	Well probe, long fiberglass tape, camera, flashlight,misc. field equip.

SPILLWAYS

AREA INSPECTED	ITEM NO.	CONDITION	OBSERVATION	CHECK ACTION NEEDED: MONITOR	INVESTIGATE	REPAIR	OTHER
PRINCIPAL SPILLWAY (BOX CULVERT AND OPEN CHANNEL CHUTE SPILLWAY)	58	ENTRANCE CONDITION	No changes noted				
	59	CENTERLINE CRACK FLOOR	No changes noted	X			
	60	CENTERLINE CRACK CEILING	No changes noted	X	X		
	61	TRANSVERSE JOINTS	No change, same CaCo3 deposits				
	62	GENERAL CONCRETE	Good to excellent, no change				
	63	SEEPAGE OR WATER	None noted	X			
	64	OPEN CHANNEL CONCRETE	Good to excellent, no change				
	65	OPEN CHANNEL JOINTS	Good to excellent, repairs made	X			
	66	OPEN CHANNEL GENERAL	Good				
OPEN CHANNEL STEEP CHUTE SPILLWAY	67	JOINTS	Good				
	68	WALL CONCRETE	Visual from above, good				
	69	FLOOR CONCRETE	Visual from above, good				
	70	WALL TOPS	Good				
	71	WEEDS ALONG WALLS	None noted				
	72	STILLING BASIN RIPRAP	Good				
	73	WEED AND BRUSH IN STILLING BASIN	Some growth in past month				
	74						
	75						
	76						

ADDITIONAL COMMENTS, REFER TO ITEM NO. IF APPLICABLE

KOOTENAI DEVELOPMENT IMPOUNDMENT DAM ROUTINE OWNERS INSPECTION REPORT

PRINCIPAL INSPECTOR ON SITE: Kurt Hafferman, P.E.	*OBSERVATION DATE (S)*	*8/25/11*
OTHER PERSONNEL ON SITE: Dan Nelson from BHI and Jeremy Peterson from Chapman Const.	*WEATHER CONDITIONS*	*Clear, warm ~65°, Calm*
Work Tasks: Measure flows, check URC02 and Fleetwood Creek, take reservoir level, measure piezometers, check drains, drain flow, gauge height at LRC01, CC02, LRC02 and LRC06, Download transducers.	*EQUIPMENT*	*Well probe, long fiberglass tape, camera, flashlight,misc. field equip.*

AREA INSPECTED	ITEM NO.	RESERVOIR AND UPSTREAM DRAINAGE BASIN CONDITION	OBSERVATION	CHECK ACTION NEEDED: MONITOR	INVESTIGATE	REPAIR	OTHER
RESERVOIR	77	LEFT SIDE (TAILINGS SLOPE)	Stable				
	78	RIGHT SIDE	Stable				
	79	RESERVOIR LEVEL	GH=1.37 ft.	X			
	80	WETLANDS	Good, no change				
	81	UPPER POND	Full				
	82	DISTANCE FROM UPSTREAM SLOPE	~ 250 ft. and receeding	X			
	83						
	84						
	85						
UPSTREAM DRAINAGE BASIN	86	PRECIPITATION WY 2010-20111 AS OF DATE OF INSP.	136% of normal at Banefield. Entire Basin at 124% of normal	X			
	87	RECENT RAINS	0.2 inches of precipitation in the last month.	X			
	88	FIRE DANGER	Medium-High				
	89	CHANGES	None				
	90	VEGETATION	No change in past month				
	91	RAINY CREEK DRAINAGE	Continued decline in flows				
	92	FLEETWOOD CREEK DRAINAGE	Continued decline in flows				
	93	MINE SITE	ER continues opperations for the summer				
	94						
	95						

ADDITIONAL COMMENTS, REFER TO ITEM NO. IF APPLICABLE

KOOTENAI DEVELOPMENT IMPOUNDMENT DAM ROUTINE OWNERS INSPECTION REPORT

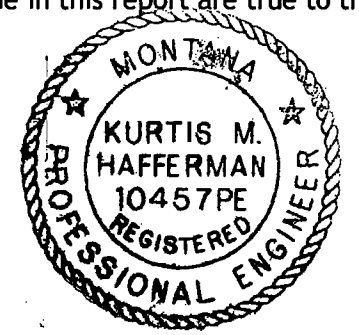
PRINCIPAL INSPECTOR ON SITE: Kurt Hafferman, P.E.	OBSERVATION DATE (S)	8/25/11
OTHER PERSONNEL ON SITE: Dan Nelson from BHI and Jeremy Peterson from Chapman Const.	WEATHER CONDITIONS	Clear, warm ~65°, Calm
Work Tasks: Measure flows, check URC02 and Fleetwood Creek, take reservoir level, measure piezometers, check drains, drain flow, gauge height at LRC01, CC02 , LRC02 and LRC06, Download transducers.	EQUIPMENT	Well probe, long fiberglass tape, camera, flashlight,misc. field equip.

AREA INSPECTED	ITEM NO.	CONDITION	OBSERVATION	CHECK ACTION NEEDED: MONITOR	INVESTIGATE	REPAIR	OTHER
		EARTHEN SPILLWAY AND MILL POND AND OTHER					
EARTHEN SPILLWAY	96	LEFT SIDE NEXT TO CREST	Good, no change				
	97	RIGHT SIDE	Good, no change				
	98	RESERVOIR LEVEL	Normal				
	99	RIPRAP	Good, no change				
	100	ROAD CONDITION	Good, no change				
	101	DOWNSTREAM SLOPE	Good, no change				
	102	TRASH RACk	Some accumulating debris	X			
	103						
	104						
MILL POND	105	CREST	Good				
	106	UPSTREAM FACE	Good				
	107	DOWNSTREAM FACE	Good				
	108	SPILLWAY FLOW	Flowing				
	109	RIPRAP IN SPILLWAY	Good, no change				
	110	ANIMALS ON EMBANKMENT	Not seen	X			
	111	ANIMALS IN SPILLWAY	Not seen				
	112	RESERVOIR LEVEL	Normal for runoff conditions	X			
OTHER	113	Animals Monitoring	None noted during this visit.	X			

ADDITIONAL COMMENTS, REFER TO ITEM NO. IF APPLICABLE

Engineers Certification and Seal

I declare that the data collection and completion of this report titled the August 2011 Routine Owners Inspection Report for the Kootenai Development Impoundment Dam, known as the subject property was completed under my direction. This assessment has revealed the conditions discussed in the inspection form in connection with the property. I declare that the statements made in this report are true to the best of my belief and professional knowledge.



12-29-2011

Kurtis M. Hafferman, P.E. MT PE 10457 Date

Location _____ Date _____

Project / Client _____

Location _____ Date _____

Project / Client _____

8:00 A.M.
PARTLY CLOUDY
55-65°
CALM

R.56.1
MONTHLY INSPECTION
AUGUST 25, 2011
THURSDAY
~~000~~
KMH
JP

Location _____ Date _____

Project / Client _____

CC-02 T= 48°
GH = 0.14'
LOW FLOW

LRC-02 T= 47°
GH = 0.58'
GOOD VEGETATION, LOW FLOW

FLEET WOOD CREEK T= 50°
GH = 0.20'
LOW FLOW

URC-02 T= 45°
GH = 0.49'
BENSON-TE BLOCKING PIEZOMETER
POSSIBLE ERRANT READINGS, RE GRADED
TO MARSH CREEK DEPTH
DOWNLOAD TRANSDUCER @ 8:56 a.m.

RESERVOIR T= 65°
GH = 1.37'
DOWNLOAD TRANSDUCER @ 9:04 a.m.

Location _____ Date _____

Project / Client _____

* NOTE - DID NOT RESET TRANSDUCERS

SPILLWAY -
DOWNLOAD TRANSDUCER @ 9:40 a.m.
LEAVING FROM SITE.

F-BEER
GH = 0.71
LOW FLOWING FLOW

LRC-01 T= 45°
GH = 0.30'
DOWNLOAD TRANSDUCER @ 10:30 a.m.

LRC-06
GH = 0.65'

22

Location _____ Date _____

Project / Client _____

PIEZOMETERS

P	DRY		101.90		
P1	DRY		103.67		
P2	113.29		112.23		
	DOWN LOAD TRANSDUCER @ 9:29 a.m.				
P3	DRY		60.48		
P4	DAMP		106.21		
P5	DAMP		104.28		
PM6	DRY		65.70		
PM2	98.89		104.88		
PM5	DAMP		50.07		
PM4	DAMP		46.17		
PM3	51.57		51.76		
PM1	53.14		54.12		

23

Location _____ Date _____

Project / Client _____

A8	5.27	08.23
A9	5.94	6.97
A10	5.28	6.14
A11	DRY	6.44

Location _____ Date _____

Project / Client _____

WD12 - 4"

WD7-8 = 0.100 ft.

D12 - 10 3/16"

D5 - clear indication of sediment behind weir.
1/8" from bottom of V-notch to top of sediment upstream.
6" from notch to stream invert downstream of V-notch

Black & mica particles.

W5 - 1/4" high flows for this drain

Location _____ Date _____

Project / Client _____

Set sediment monitoring Drain 12 sediment station #1

D12SS#1 =
~ 3 ft left and downstream of outlet

D12SS#2 =
~ 13 ft, right bank

Sediment below V-notch = 2 1/2"

reset / plumbed weir

Location _____ Date _____

Project / Client _____

Post cleaning

F1234 GH=0.250 Ff.

D3 - ph. 7.7

Total Alk → 180

Coppe 0.10

(same)

Submit station set

D3 - flow meas

3 gal / 4 sec

Location _____ Date _____

Project / Client _____

Test strip

D6

Total alkalinity > 180

ph - 7.7

ppm Copper - 0.1

D5

Total Alk > 180

ph 7.7

Copper 0.1

Location _____ Date _____

Project / Client _____

Flow @ LR801

Dist	de	√
~~71.4~~	~~0~~	~~0~~
71.7	0.20	0.98
72.0	0.20	1.64
72.5	0.15	1.54
73.0	0.15	1.82
73.5	0.17	1.66
74.0	0.12	1.02
74.5	.2	0.63
75.0	.2	0.63
75.5	.28	1.04
76.0	.38	1.26
76.5	.42	1.51
77.0	.35	0.43
77.75	~~0~~	~~0~~

Location _____ Date _____

Project / Client _____

APPENDIX 3

UPDATED PIEZOMETER DATA AND GRAPHS

From S:\DOCUMENT\JOB FILES\Jobs\R\R_56_01\Documents\Annual Inspection\PIEZOMETERS

Billmayer & Hafferman Inc.
Kootenai Development Impoundment Dam Annual Inspection
3-Nov-10 Last Update
Hafferman **Bold = interpolated values**
Wet Piezometer Plots

Piezometer Num	P2		Elev.	PM1		Elev.	PM2		Elev.	A8		Elev.
		T.O.C.=	2920.54		T.O.C.=	2846.41		T.O.C.=	2903.34		T.O.C.=	2795.11
Date	DW	TD	WS Elev	DW	TD	WS Elev	DW	TD	WS Elev	DW	TD	WS Elev
8/25/2011	113.29	122.23	2807.25	53.14	54.92	2793.27	98.89	104.88	2804.45	5.27	28.23	2789.84
7/29/2011	105.09	122.28	2815.45	50.73	54.91	2795.68	94.01	104.96	2809.33	4.1	28.26	2791.01
6/23/2011	78.73	122.28	2841.81	35.53	54.91	2810.88	82.62	104.96	2820.72	1.3	28.26	2793.81
5/25/2011	72.98	122.28	2847.56	33.88	54.91	2812.53	74.51	104.96	2828.83	1.3	28.26	2793.81
5/18/2011	72.25	122.28	2848.29	34.42	54.87	2811.99	76.14	104.92	2828.2	1.4	28.24	2793.71
5/4/2011	84.02	122.28	2836.52	38.2	54.82	2808.21	81.96	104.57	2821.38	2.4	28.25	2792.71
3/31/2011	115.25	122.27	2805.29	51.36	54.83	2795.05	101.53	104.85	2801.81	6.37	28.24	2788.74
3/4/2011	118.1		2802.44	51.58		2794.83	102.3		2801.04	7.48		2787.63
2/4/2011	118.64	122.24	2801.9	51.61	54.82	2794.8	103.16	104.77	2800.18	7.21	28.21	2787.90
1/7/2011	119.75	122	2800.79	51.95	54.85	2794.46	103.85	104.8	2799.49	8.15	28.2	2786.96
11/30/2010	120.25	122.3	2800.29	52.5	54.85	2793.91	104.25	104.8	2799.09	8.26	28.2	2786.85
10/29/2010	120.68	122	2799.86	52.92	54.85	2793.49	104.43	104.95	2798.91	8.3	28.2	2786.81
9/28/2010	122.6	122.1	2797.94	53.15	54.8	2793.26	104.4	104.6	2798.94	8.34	28.3	2786.77
8/2/2010	117.35	122.1	2803.19	62.15	54.8	2794.26	102.3	104.6	2801.04	6.96	28.3	2788.15
6/25/2010	113.52	122.1	2807.02	51.41	54.8	2795	100.67	104.6	2802.67	6.75	28.3	2788.36
6/3/2010	117.5	122.1	2803.04	52.44	54.8	2793.97	102.27	104.6	2801.07	7.4	28.3	2787.71
3/26/2010	114.49	122.1	2806.05	53.39	54.8	2793.02	103.62	104.6	2799.72	8.19	28.3	2786.92
3/3/2010	116.42	122.1	2804.12	52.25	54.8	2794.16	102.2	104.6	2801.14	7.37	28.3	2787.74
1/29/2010	120.24	122.1	2800.3	53.65	54.8	2792.76	104.6	104.6	2798.74	8.32	28.3	2786.79
12/29/2009	120.64	122.1	2799.9	53.74	54.8	2792.67	104.28	104.6	2799.06	8.37	28.3	2786.74
11/25/2009	120.56	122.1	2799.98	53.71	54.8	2792.7	104.25	104.6	2799.09	8.31	28.3	2786.80
10/23/2009	120.85	122.1	2799.69	53.81	54.8	2792.6	104.22	104.6	2799.12	8.3	28.3	2786.81
9/11/2009	119.91	122.1	2800.63	53.69	54.8	2792.72	103.39	104.6	2799.95	8.2	28.3	2786.91

Piezometer Num	P2		Elev.	PM1		Elev.	PM2		Elev.	A8		Elev.
		T.O.C.=	2920.54		T.O.C.=	2846.41		T.O.C.=	2903.34		T.O.C.=	2795.11
Date	DW	TD	WS Elev	DW	TD	WS Elev	DW	TD	WS Elev	DW	TD	WS Elev
8/21/2009	118.67	122.1	2801.87	53.42	64.8	2792.99	102.18	104.6	2801.16	7.66	28.3	2787.45
7/24/2009	114.13	122.1	2806.41	62.07	64.8	2794.34	100.41	104.6	2802.93	6.42	28.3	2788.69
6/29/2009	106.36	122.1	2814.18	50.73	54.8	2795.68	97.52	104.6	2805.82	4.75	28.3	2790.36
6/26/2009	106.24	122.1	2816.3	50.6	64.8	2795.81	97.24	104.6	2806.1	4.565	28.3	2790.55
5/27/2009	90.4	122.1	2830.14	46.62	64.8	2800.79	89.6	104.6	2813.74	2.65	28.3	2792.46
6/5/2009	91.68	122.1	2828.86	45.71	54.8	2800.7	88.16	104.6	2815.19	3.41	28.3	2791.70
5/1/2009	91.45	122.1	2829.09	44.66	64.8	2801.85	87.52	104.6	2815.82	3.44	28.3	2791.67
4/30/2009	91.55	122.1	2828.99	44.66	54.8	2801.75	87.81	104.6	2816.63	3.48	28.3	2791.63
4/24/2009	98.18	122.1	2822.36	45.37	54.8	2801.04	92.13	104.6	2811.21	4.59	28.3	2790.52
4/13/2009	112.87	122.1	2807.67	51.43	54.8	2794.98	100.24	104.6	2803.1	6.88	28.3	2788.23
2/20/2009	119.9	122.1	2800.64	53.69	54.8	2792.72	103.75	104.6	2799.59	8.2	28.3	2786.91
1/15/2009	120.4	122.1	2800.14	53.86	54.8	2792.55	104.11	104.6	2799.23	8.3	28.3	2786.81
12/1/2008	120.61	122.1	2799.93	63.9	54.8	2792.51	104.07	104.6	2799.27	8.21	28.3	2786.90
10/30/2008	119.17	122.1	2801.37	53.87	54.8	2792.54	103.91	104.6	2799.43	8.18	28.3	2786.93
10/2/2008	117.9	122.1	2802.64	53.94	54.8	2792.47	104.6	104.6	2798.74	8.09	28.3	2787.02
8/8/2008	115.78	122.1	2804.76	53.12	54.8	2793.29	101.1	104.6	2802.24	6.97	28.3	2788.14
7/3/2008	105.4	122.1	2815.14	49.73	54.8	2796.68	97.49	104.6	2806.86	4.66	28.3	2790.46
6/3/2008	87.62	122.1	2833.02	48.36	54.8	2798.05	90.71	104.6	2812.63	2.93	28.3	2792.18
5/20/2008	90.49	122.1	2830.05	48.17	64.8	2798.24	88	104.6	2815.34	2.67	28.3	2792.44
5/16/2008	91.34	122.1	2829.2	46.45	54.8	2799.96	88.4	104.6	2814.94	3.88	28.3	2791.23
4/23/2008	114.42	122.1	2806.12	50.16	54.8	2796.25	101.1	104.6	2802.24	7.6	28.3	2787.51
3/10/2008	119.65	122.1	2800.89	51.47	54.8	2794.94	103.53	104.6	2799.81	8.4	28.3	2786.71
2/7/2008	120.1	122.1	2800.44	51.2	54.8	2795.21	103.8	104.6	2799.54	8.55	28.3	2786.56
12/26/2007	120.34	122.1	2800.2	51.52	54.8	2794.89	103.98	104.6	2799.36	8.52	28.3	2786.59
11/9/2007	121.3	122.1	2799.24	51.65	54.8	2794.76	104	104.6	2799.34	8.75	28.3	2786.36
9/27/2007	119.12	122.1	2801.42	51.76	54.8	2794.66	103.12	104.6	2800.22	7.22	28.3	2787.89
5/8/2007	107.64	122.1	2812.9	49.57	54.8	2796.84	96.18	104.6	2807.16	5.22	28.3	2789.89
11/14/2006	119.21	122.1	2801.33	51.88	54.8	2794.53	102.72	104.6	2800.62	7.96	28.3	2787.15
10/30/2006	119.48	122.1	2801.06	51.82	54.8	2794.69	103.69	104.6	2799.65	7.92	28.3	2787.19
8/16/2006	119.39	122.1	2801.15	51.72	64.8	2794.69	103.51	104.6	2799.83	7.72	28.3	2787.39

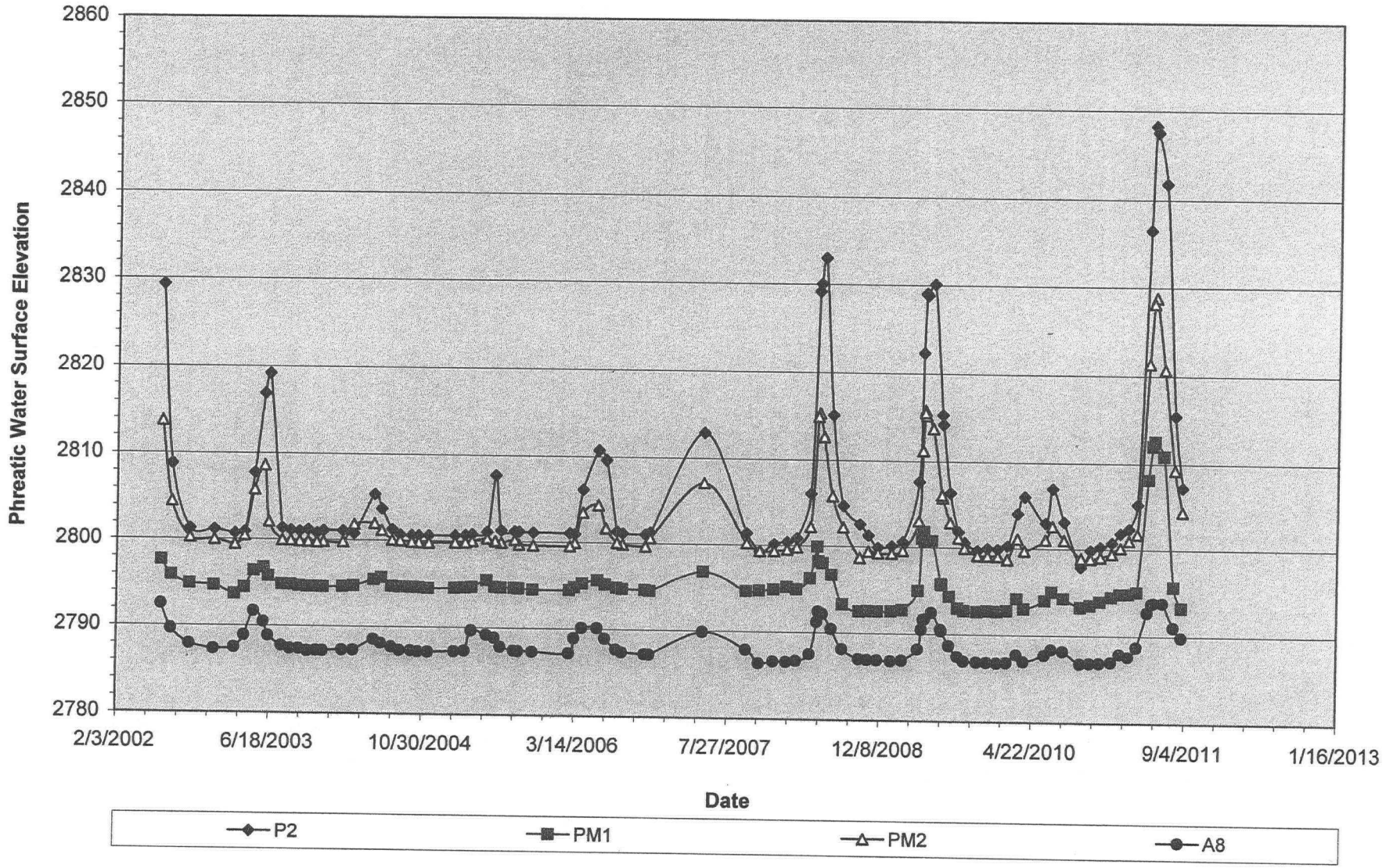
Piezometer Num	P2		Elev.	PM1		Elev.	PM2		Elev.	A8		Elev.
		T.O.C.=	2920.54		T.O.C.=	2846.41		T.O.C.=	2903.34		T.O.C.=	2795.11
Date	DW	TD	WS Elev	DW	TD	WS Elev	DW	TD	WS Elev	DW	TD	WS Elev
7/28/2006	119.14	122.1	2801.4	51.61	54.8	2794.8	103.32	104.6	2800.02	7.42	28.3	2787.69
6/21/2006	110.89	122.1	2809.66	51.23	64.8	2795.18	101.62	104.6	2801.72	6.18	28.3	2788.93
5/27/2006	109.78	122.1	2810.76	50.76	54.8	2795.66	98.92	104.6	2804.42	4.98	28.3	2790.13
4/7/2006	114.34	122.1	2806.2	51.14	54.8	2795.27	99.79	104.6	2803.55	4.96	28.3	2790.16
3/12/2006	119.62	122.1	2801.02	51.62	54.8	2794.79	103.39	104.6	2799.95	6.18	28.3	2788.93
2/24/2006	119.44	122.1	2801.1	51.95	54.8	2794.46	103.79	104.6	2799.55	7.92	28.3	2787.19
10/27/2005	119.41	122.1	2801.13	51.94	54.8	2794.47	103.76	104.6	2799.58	7.81	28.3	2787.30
9/10/2005	119.32	122.1	2801.22	51.84	64.8	2794.57	103.66	104.6	2799.68	7.76	28.3	2787.35
8/27/2005	119.3	122.1	2801.24	51.78	54.8	2794.63	103.14	104.6	2800.2	7.68	28.3	2787.43
7/14/2006	119.22	122.1	2801.32	51.74	64.8	2794.67	103.46	104.6	2799.88	7.28	28.3	2787.83
6/24/2005	112.79	122.1	2807.75	51.68	64.8	2794.73	103.29	104.6	2800.05	6.22	28.3	2788.89
5/29/2005	119.42	122.1	2801.12	50.92	54.8	2795.49	103.01	104.6	2800.33	5.91	28.3	2789.20
4/10/2005	119.7	122.1	2800.84	51.72	54.8	2794.69	103.32	104.6	2800.02	6.42	28.3	2789.69
3/19/2005	119.82	122.1	2800.72	51.82	54.8	2794.69	103.49	104.6	2799.86	7.79	28.3	2787.32
2/13/2005	119.86	122.1	2800.68	51.87	54.8	2794.54	103.64	104.6	2799.8	7.86	28.3	2787.25
11/19/2004	119.9	122.1	2800.64	51.91	64.8	2794.5	103.59	104.6	2799.75	7.96	28.3	2787.15
10/17/2004	119.89	122.1	2800.65	51.84	54.8	2794.67	103.52	104.6	2799.82	7.91	28.3	2787.20
9/24/2004	119.91	122.1	2800.63	51.81	54.8	2794.6	103.49	104.6	2799.85	7.82	28.3	2787.29
8/17/2004	119.84	122.1	2800.7	51.79	54.8	2794.62	103.34	104.6	2800	7.79	28.3	2787.32
7/22/2004	119.21	122.1	2801.33	51.72	54.8	2794.69	103.29	104.6	2800.05	7.42	28.3	2787.69
6/18/2004	116.8	122.1	2803.74	50.69	54.8	2795.72	102.14	104.6	2801.2	7.01	28.3	2788.10
6/25/2004	115.14	122.1	2805.4	50.95	64.8	2795.46	101.34	104.6	2802	6.65	28.3	2788.56
3/19/2004	119.74	122.1	2800.8	51.68	54.8	2794.73	101.46	104.6	2801.88	7.8	28.3	2787.31
2/12/2004	119.45	122.1	2801.09	51.82	54.8	2794.59	103.52	104.6	2799.82	7.8	28.3	2787.31
12/10/2003	119.44	122.1	2801.1	51.86	54.8	2794.55	103.54	104.6	2799.8	7.91	28.3	2787.20
11/19/2003	119.72	122.1	2800.82	51.84	54.8	2794.57	103.59	104.6	2799.75	7.9	28.3	2787.21
10/21/2003	119.32	122.1	2801.22	51.84	54.8	2794.57	103.54	104.6	2799.8	7.94	28.3	2787.17
9/23/2003	119.51	122.1	2801.03	51.76	54.8	2794.65	103.49	104.6	2799.85	7.7	28.3	2787.41
8/26/2003	119.42	122.1	2801.12	51.62	54.8	2794.79	103.42	104.6	2799.92	7.68	28.3	2787.43
7/29/2003	119.16	122.1	2801.38	51.58	54.8	2794.83	103.38	104.6	2799.96	7.39	28.3	2787.72

Piezometer Num	P2		Elev.	PM1		Elev.	PM2		Elev.	A8		Elev.
		T.O.C.=	2920.64		T.O.C.=	2846.41		T.O.C.=	2903.34		T.O.C.=	2795.11
Date	DW	TD	WS Elev	DW	TD	WS Elev	DW	TD	WS Elev	DW	TD	WS Elev
6/14/2003	101.34	122.1	2819.2	60.62	54.8	2795.79	101.23	104.6	2802.11	6.22	28.3	2788.89
5/30/2003	103.62	122.1	2816.92	49.67	54.8	2796.74	94.67	104.6	2808.67	4.62	28.3	2790.49
4/28/2003	112.74	122.1	2807.8	50.02	54.8	2796.39	97.48	104.6	2805.86	3.41	28.3	2791.70
3/28/2003	119.62	122.1	2800.92	51.99	54.8	2794.42	102.91	104.6	2800.43	6.21	28.3	2788.90
2/24/2003	119.82	122.1	2800.72	52.74	54.8	2793.67	103.9	104.6	2799.44	7.62	28.3	2787.49
12/18/2002	119.34	122.1	2801.2	51.74	54.8	2794.67	103.36	104.6	2799.98	7.77	28.3	2787.34
9/30/2002	119.28	122.1	2801.26	51.55	54.8	2794.86	103.12	104.6	2800.22	7.22	28.3	2787.89
7/31/2002	111.72	122.1	2808.82	50.54	54.8	2795.87	98.87	104.6	2804.47	5.46	28.3	2789.65
6/28/2002	91.22	122.1	2829.32	48.82	54.8	2797.59	89.63	104.6	2813.71	2.62	28.3	2792.49

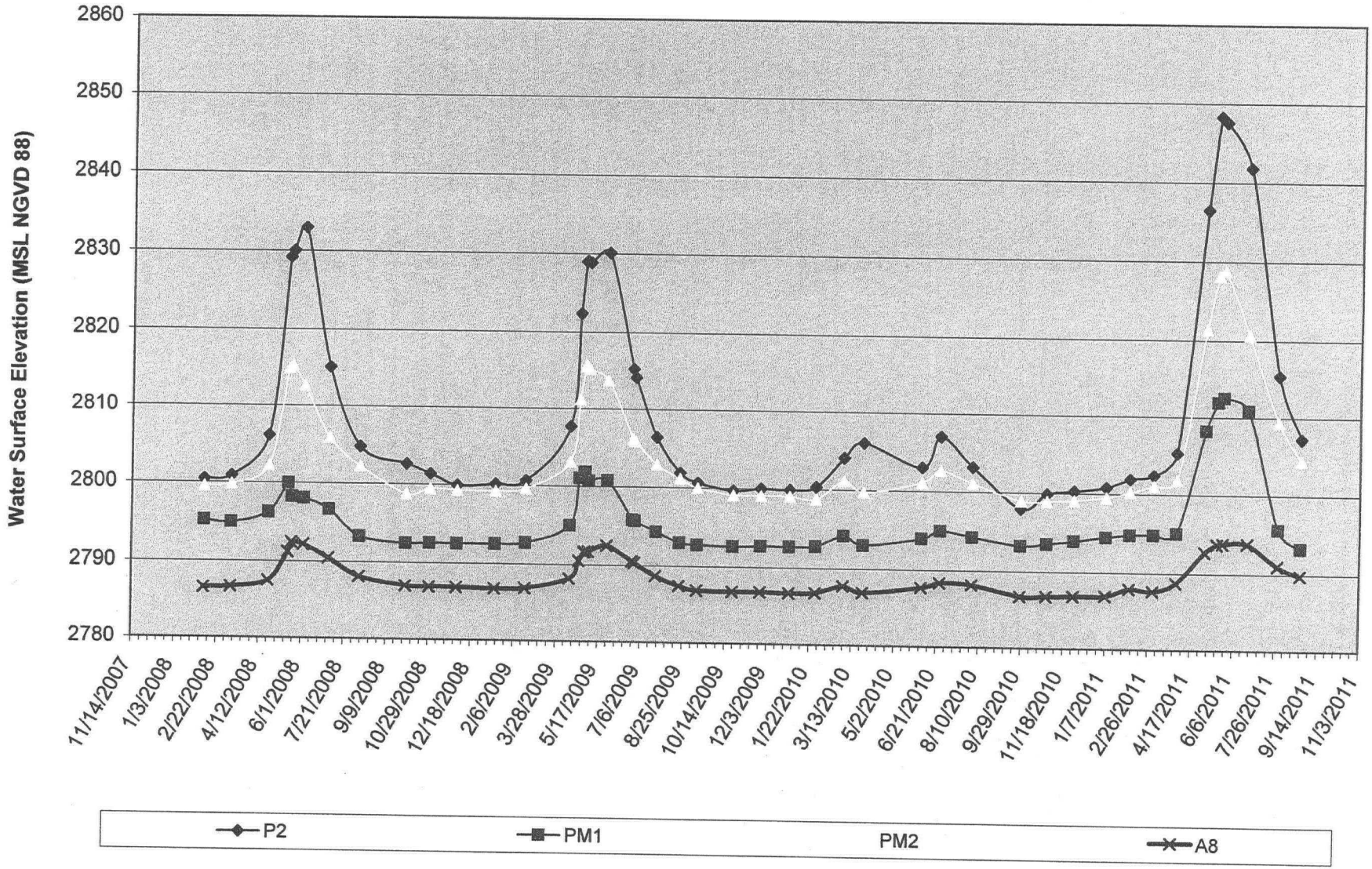
	P	A8	P2	PM1	PM2	P1	P3	P4	P5	PM3	PM4	PM5	PM6
Date	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft	ft
4/24/2008	100.5	7.60	114.42	50.16	101.1	103.39	60.65	106.24	104.35	51.78	41.12	50.2	66.82
5/30/2008		2.71		48.2	88								
6/30/2008		2.93		48.36	90.71								
7/3/2008	100.34	4.65	105.4	49.73	97.49	101.9	dry	102.48	104.28	51.59	dry	dry	dry
8/8/2008	dry	6.97	117.8	53.12	101.1	dry	dry	dry	104.34	51.79	dry	dry	dry
10/1/2008		8.09		53.94									
1/15/2009	100.7	8.30	120.4	53.86	104.11	103.7	60.5	106.21	104.36	51.78	41.13	49.98	66.71
2/20/2009		8.20	119.9	53.69	103.75								
4/13/2009	101.55	6.88	112.87	51.43	100.24	103.8	60.4	106.05	103.44	51.78	41.1	50	66.8
4/24/2009	dry	4.59	98.18	45.37	92.13	103.68	dry	97.45	102.82	49.63	dry	dry	dry
4/30/2009	dry	3.48	91.55	44.66	87.81	dry	dry	91.28	99.09	49.69	dry	dry	dry
5/1/2009		3.44	91.45										
5/5/2009	dry	3.41	91.68	45.71	88.15	101.58	dry	98.97	98.71	dry	dry	50.8	
5/27/2009	dry	2.65	90.4	45.62	89.6	96.88	dry	88.25	97.97	50.12	41.51	dry	dry
6/26/2009	dry	4.57	105.24	50.6	97.24	102.39	dry	102.21	104.25	50.02	dry	51.57	dry
6/29/2009		4.75	106.36										
7/24/2009	dry	6.42	114.13	52.07	100.41	dry	dry	dry	dry	50.02	dry	dry	dry
8/21/2009	dry	7.66	118.67	53.42	102.18	dry	dry	106.2	dry	dry	dry	50.04	dry
9/11/2009	dry	8.20	119.91	53.69	103.39	dry	dry	dry	dry	dry	dry	dry	dry
10/23/2009	dry	8.30	120.85	53.81	104.22	dry	dry	dry	dry	dry	dry	dry	dry
11/25/2009	dry	8.31	120.56	53.71	104.25	dry	dry	dry	dry	dry	dry	dry	dry
12/29/2009	dry	8.37	120.64	53.74	104.28	dry	dry	dry	dry	dry	dry	dry	dry
1/29/2010	dry	8.32	120.24	53.65	dry	dry	dry	dry			dry	dry	dry
3/3/2010	dry	7.37	116.42	52.25	102.02	dry	dry	dry	dry	dry	dry	dry	dry
3/26/2010	dry	8.19	114.49	53.39	103.62	dry	dry	dry	dry	dry	dry	dry	dry
6/3/2010	dry	7.40	117.15	52.44	102.27	dry	dry	dry	dry	dry	dry	dry	dry
6/25/2010	dry	6.75	113.52	51.41	100.67	dry	dry	dry	104.09	51.52	dry	dry	dry
8/2/2010	dry	6.96	117.35	52.15	102.3	dry	dry	dry	dry	51.76	dry	dry	dry
9/28/2010	dry	8.34		53.15	104.4	dry	dry	dry	dry	dry	dry	dry	dry
10/29/2010	dry	8.30	120.68	52.92	104.43	dry	dry	dry	dry	dry	dry	dry	dry
11/30/2010	dry	8.26	120.25	52.5	104.25	dry	dry	dry	dry	dry	dry	50.07	dry
1/7/2011	dry	8.15	119.75	51.95	103.85	dry	dry	dry	dry	dry	dry	50.07	dry
2/4/2011	dry	7.21	118.64	51.61	103.16	dry	dry	dry	dry	dry	dry	50.06	dry
3/4/2011	dry	7.48	118.1	51.58	102.3	dry	dry	dry	dry	dry	dry	51	dry

3/31/2011	dry	6.37	115.25	51.36	101.53	103.67	dry	dry	103.54	51.78	dry	50.06	dry
5/4/2011	dry	2.40	84.02	38.2	81.96	98.58	60.5	85.84	96.4	47.98	41.16	50.06	66.84
5/18/2011	dry	1.40	72.25	34.42	75.14	90.16	dry	71.97	94.14	46.3	40.14	50.06	dry
5/25/2011	dry	1.30	72.98	33.88	74.51	89.27	dry	70.58	93.9	46.03	40.32	50.07	dry
6/23/2011	dry	1.30	78.73	35.53	82.62	88.22	dry	75.04	94.18	46.85	41.12	dry	dry
7/29/2011	dry	4.10	105.09	50.73	94.01	100.23	dry	101.6	103.99	51.32	41	50.1	dry
8/25/2011	dry	5.27	113.29	63.14	98.89	dry	dry	106.21	104.28	51.57	41.17	50.07	dry

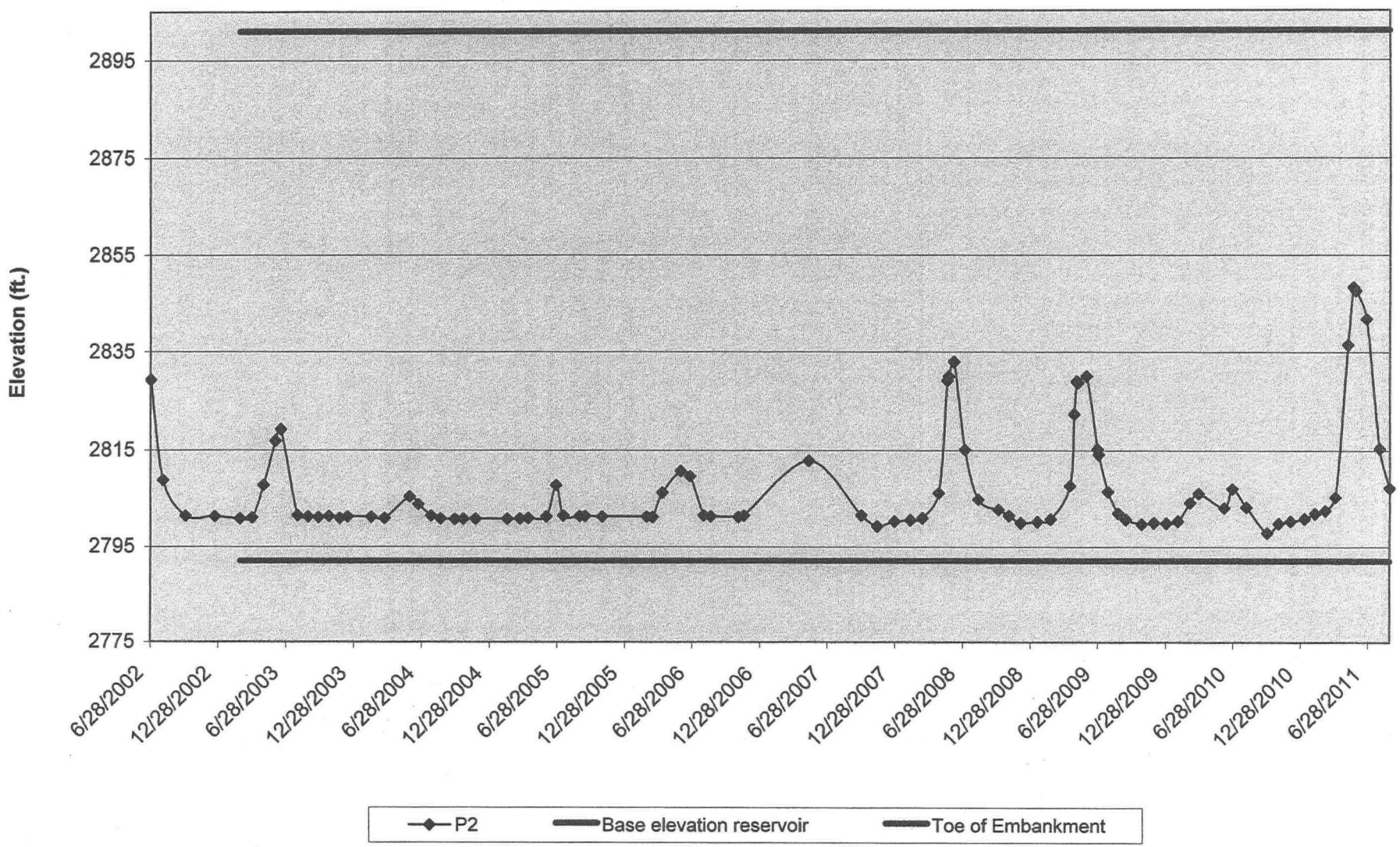
KDID Piezometers July 1, 2002 to August 25, 2011



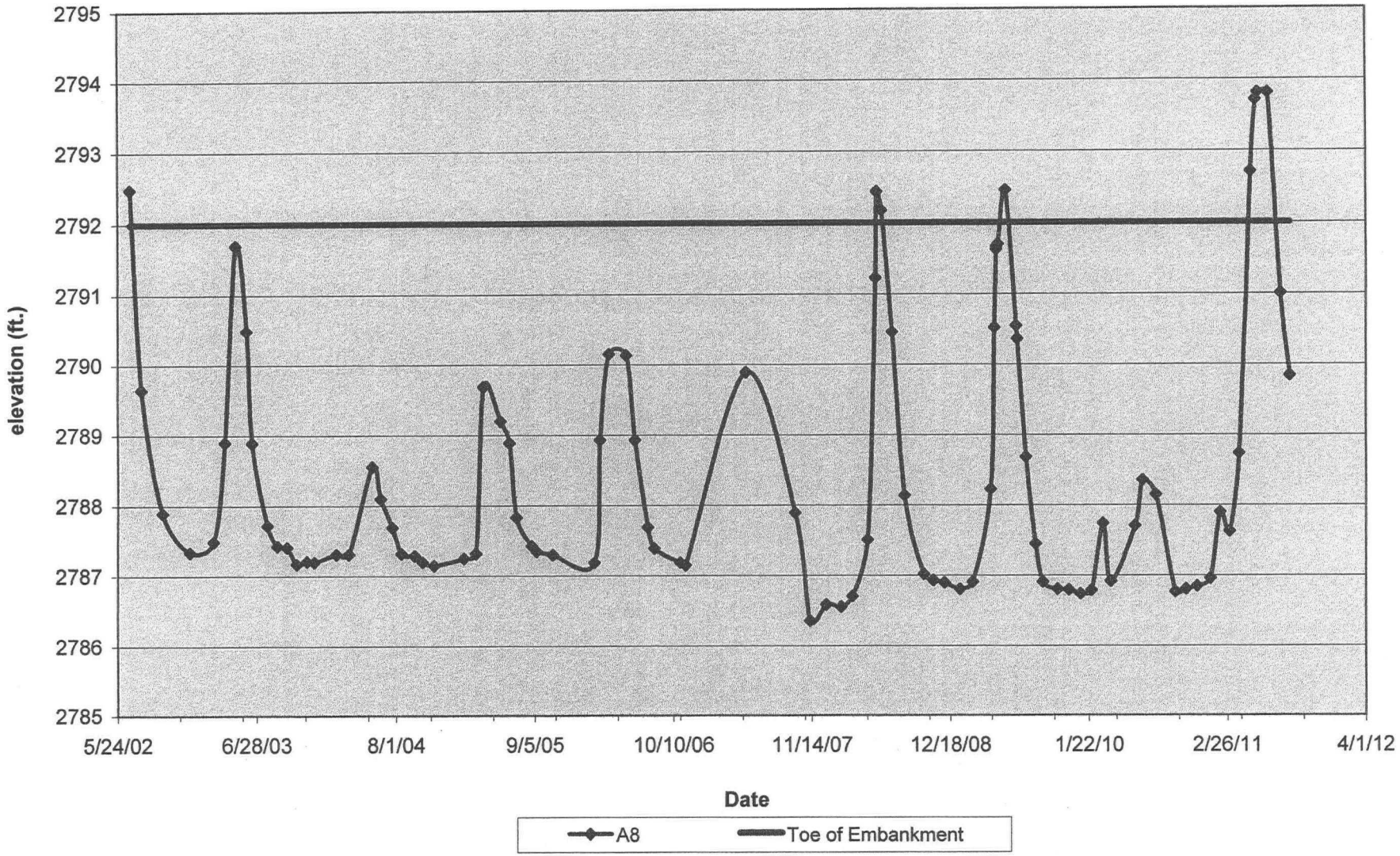
KDID All "Wet" Piezometer Elevations 2008 - 2011



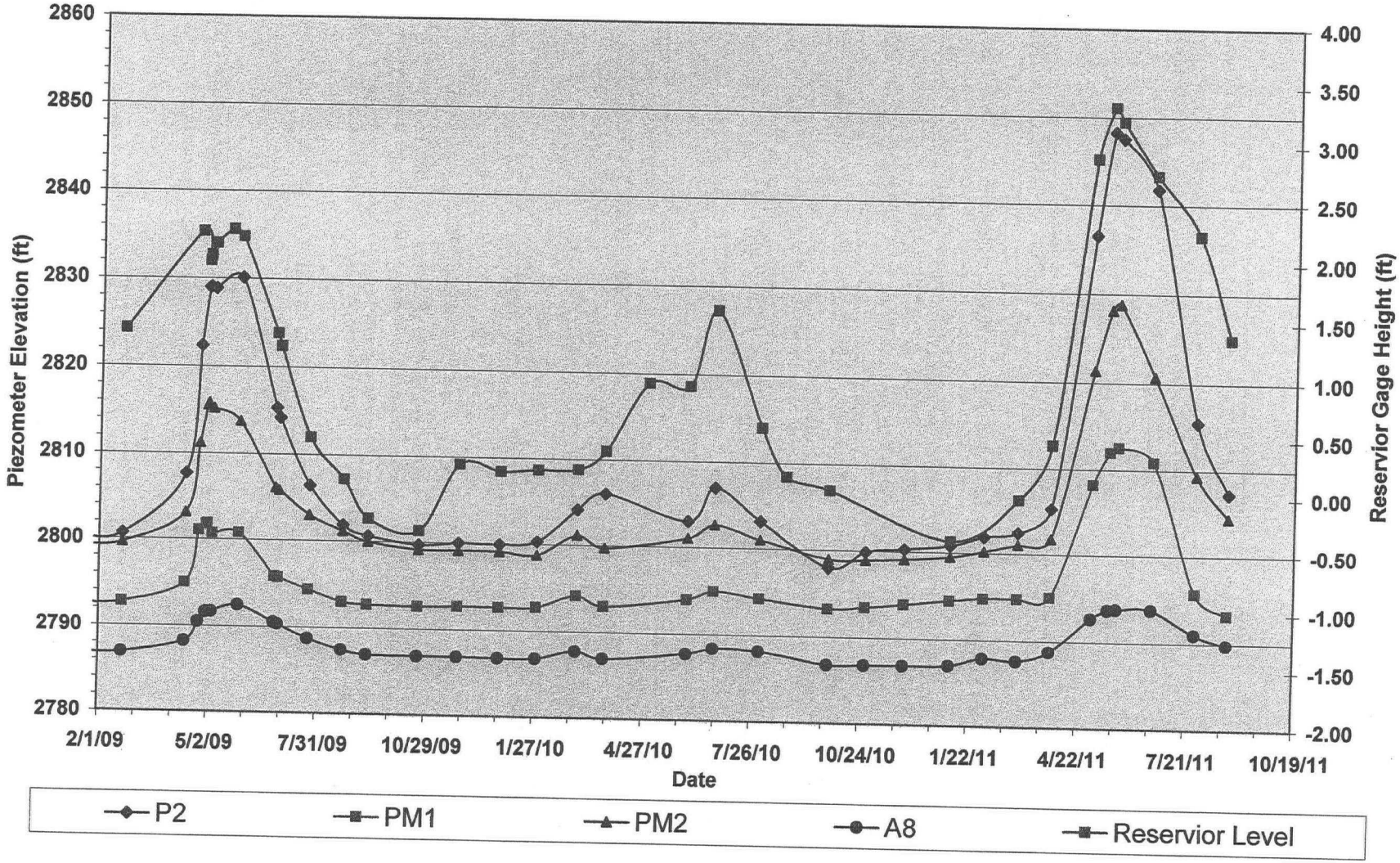
KDID P2 and Base reservoir and Embankment Toe 2002 to 2011



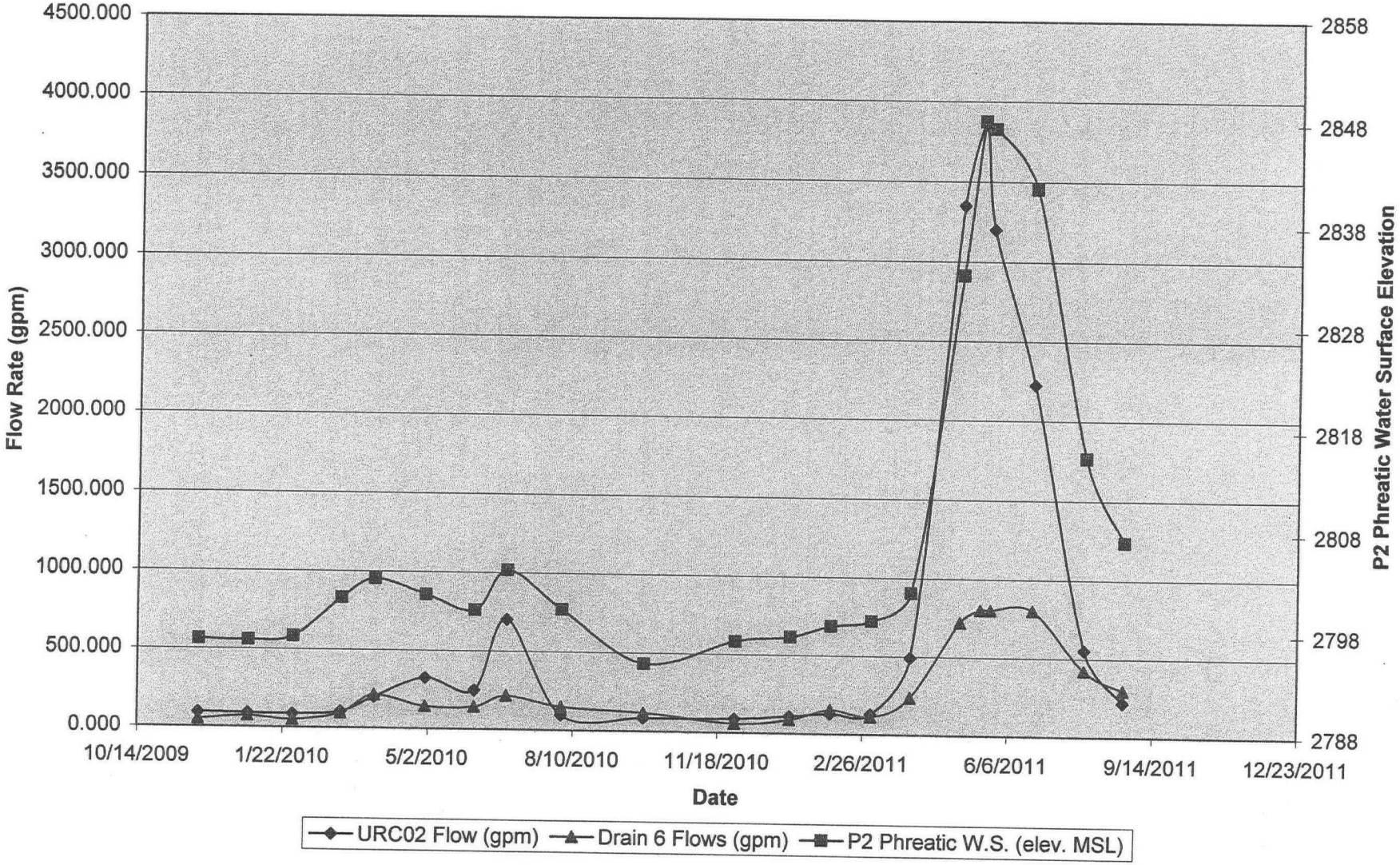
KDID Piezometer A8 at the Toe of the Embankment

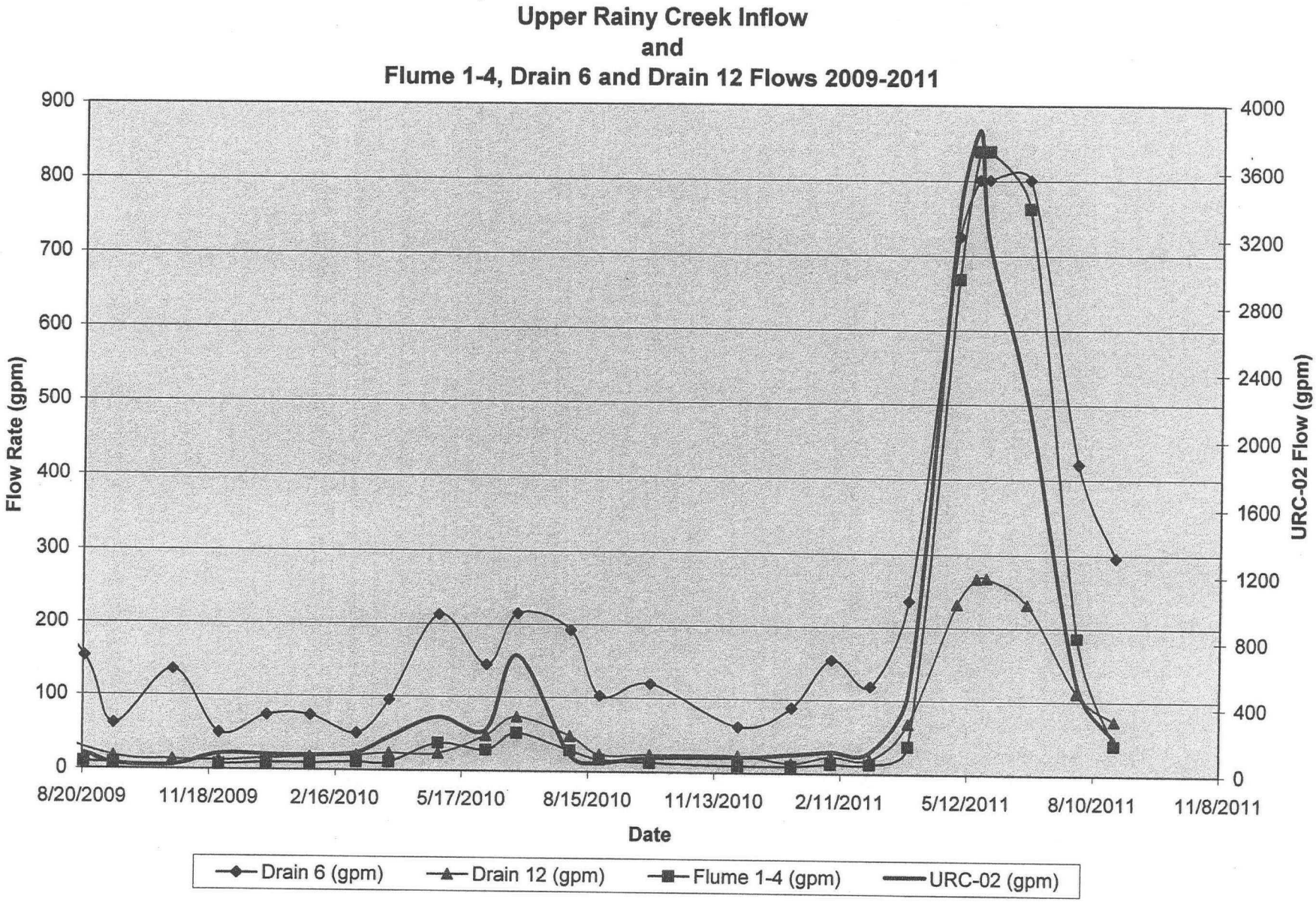


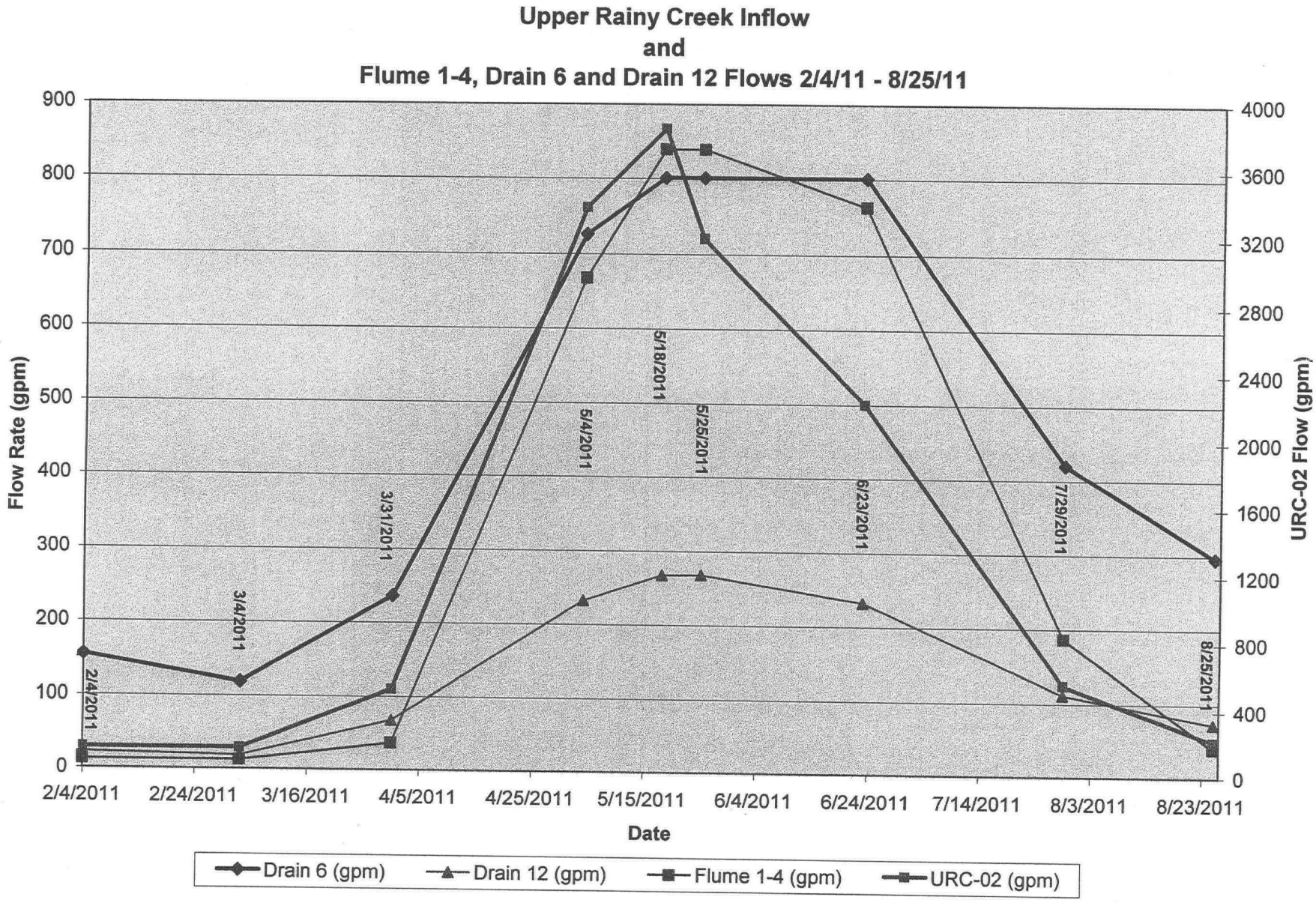
KDID Piezometers 2009 to 2011
with
Reservoir Gauge Height



URC02 Inflows, Drain 6 Outflow and Piezometer P2




Upper Rainy Creek Inflow
and
Flume 1-4, Drain 6 and Drain 12 Flows 2009-2011
Flow Rate (gpm)
URC-02 Flow (gpm)
900
800
700
600
500
400
300
200
100
0
4000
3600
3200
2800
2400
2000
1600
1200
800
400
0
8/20/2009
11/18/2009
2/16/2010
5/17/2010
8/15/2010
11/13/2010
2/11/2011
5/12/2011
8/10/2011
11/8/2011
Date
Drain 6 (gpm)
Drain 12 (gpm)
Flume 1-4 (gpm)
URC-02 (gpm)


Upper Rainy Creek Inflow
and
Flume 1-4, Drain 6 and Drain 12 Flows 2/4/11 - 8/25/11
Flow Rate (gpm)
URC-02 Flow (gpm)
Date
2/4/2011
3/4/2011
3/31/2011
5/4/2011
5/18/2011
5/25/2011
6/23/2011
7/29/2011
8/25/2011
Drain 6 (gpm)
Drain 12 (gpm)
Flume 1-4 (gpm)
URC-02 (gpm)